

## SEQUENCE LISTING

<110>     Introgene BV  
          Havenga, Menzo  
          Vogels, Ronald

<120>     Infection with chimeric adenoviruses of cells negative  
          for the adenovirus serotype 5 Cocksacki adenovirus  
          receptor (CAR)

<130>     2183-52226US

<140>     10/040,949  
<141>     2002-01-07

<150>     W001/04334  
<151>     2000-07-07

<150>     EP 99202234.3  
<151>     1999-07-08

<150>     US 60/142,557  
<151>     2000-07-07

<160>     58

<170>     PatentIn version 3.1

<210>     1  
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<223>     linker contains a PacI restriction site at positions 8-15

<400>     1  
aattgtctta attaaccgct taa

<210>     2  
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<220>  
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23

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 positions 8-15  
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 positions 9-16  
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 aattgcggtt aattaagac 19  
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 ctgtacgtac cagtgcactg gcctaggcat ggaaaaatac ataactg 47  
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 gactcagtca  
 atcg 64

<210> 6  
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 <223> primer HSA1

<400> 6  
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<400> 11  
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<210> 12

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 <210> 13  
 <211> 19  
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 <223> primer NY-down  
  
 <400> 13  
 ggagaccact gccatgttg 19  
  
 <210> 14  
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 <400> 14  
 ttaagtcgac 10  
  
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 ggggtggcca ggggtacctct aggccttttgc aa 32  
  
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 <222> (11)..(16)  
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 cccgtgtatc catatgatgc agacaacgac cgacc 35  
  
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<221> misc_feature
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cccgtctacc catatggcta cgcgcgg
27

<210> 19
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<222> (11)..(16)
<223> contains a NdeI restriction site at positions 11-16

<220>
<221> misc_feature
<222> (3)
<223> 'k' at position 3 indicates a nucleotide that may be
either g or t

<220>
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<222> (6)

<223> 's' at position 6 indicates a nucleotide that may be
either g or c

<400> 19
cckgtstacc catatgaaga tgaaagc
27

<210> 20

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<211> 31
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<223> tail oligonucleotide

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<222> (23)

<223> 'y' at position 23 indicates a nucleotide that may be
either t or c

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<400> 20
cccgctctacc catatgacac ctyctcaact c
31

<210> 21
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<220>
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<223> contains a NdeI restriction site at positions 11-16

<400> 21
cccggtttacc catatgaccc atttgacaca tcagac
36

<210> 22
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<220>
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<220>
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<222> (1)..(30)
<223> knob oligonucleotide

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<222> (4)..(9)
<223> contains a NsiI restriction site at positions 4-9

<400> 22
ccgatgcatt tattgttggg ctatatagga                                     30

<210> 23
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<222> (11)
<223> 'y' at position 11 indicates a nucleotide that may be
either t or c

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<222> (22)..(22)
<223> 'r' at position 22 indicates a nucleotide that may be
either g or a

<220>
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<222> (4)..(9)
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<400> 23
ccgatgcatt yattcttggg cratatagga                                     30

<210> 24

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<211> 36  
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<223> knob oligonucleotide

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<221> misc\_feature  
<222> (28)  
<223> 'w' at position 28 indicates a nucleotide that may be either a or t

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36

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<223> contains a NsiI restriction site at positions 4-9

<400> 25  
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30

<210> 26  
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<212> DNA  
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<220>
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<223> knob oligonucleotide

<220>
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<223> contains a NsiI restriction site at positions 4-9

<400> 26
ccgatgcatt tattgttcag ttatgtagca
30

<210> 27
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<212> DNA
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<223> Description of Artificial Sequence:  oligonucleotide

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<223> knob oligonucleotide

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<222> (4)..(9)
<223> contains a NsiI restriction site at positions 4-9

<400> 27
gccatgcatt tattgttctg ttacataaga
30

<210> 28
<211> 37
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:  oligonucleotide

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<222> (1)..(37)
<223> knob oligonucleotide

<220>

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 <223> contains a PacI restriction site at positions 4-11  
  
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 <210> 29  
 <211> 30  
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 <222> (1)..(30)  
 <223> knob oligonucleotide  
  
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 either t or c  
  
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 <222> (23)  
 <223> 'w' at position 23 indicates a nucleotide that may be  
 either a or t  
  
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 <211> 377  
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 <223> Serotype 8 fiber protein  
  
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Lys	Arg	Ala	Arg	Pro	Ser	Glu	Asp	Thr	Phe	Asn	Pro	Val	Tyr	Pro	Tyr				
			20					25					30						
Gly	Tyr	Ala	Arg	Asn	Gln	Asn	Ile	Pro	Phe	Leu	Thr	Pro	Pro	Phe	Val				
		35					40					45							
Ser	Ser	Asn	Gly	Phe	Gln	Asn	Phe	Pro	Pro	Gly	Val	Leu	Ser	Leu	Lys				
	50					55					60								
Leu	Ala	Asp	Pro	Ile	Thr	Ile	Asn	Asn	Gln	Asn	Val	Ser	Leu	Lys	Val				
65					70					75				80					
Gly	Gly	Gly	Leu	Thr	Leu	Gln	Glu	Glu	Thr	Gly	Lys	Leu	Thr	Val	Asn				
				85					90					95					
Thr	Glu	Pro	Pro	Leu	His	Leu	Thr	Asn	Asn	Lys	Leu	Gly	Ile	Ala	Leu				
			100					105					110						
Asp	Ala	Pro	Phe	Asp	Val	Ile	Asp	Asn	Lys	Leu	Thr	Leu	Leu	Ala	Gly				
		115					120					125							
His	Gly	Leu	Ser	Ile	Ile	Thr	Lys	Glu	Thr	Ser	Thr	Leu	Pro	Gly	Leu				
	130					135					140								
Val	Asn	Thr	Leu	Val	Val	Leu	Thr	Gly	Lys	Gly	Ile	Gly	Thr	Asp	Leu				
145					150					155					160				
Ser	Asn	Asn	Gly	Gly	Asn	Ile	Cys	Val	Arg	Val	Gly	Glu	Gly	Gly	Gly				
				165					170					175					
Leu	Ser	Phe	Asn	Asp	Asn	Gly	Asp	Leu	Val	Ala	Phe	Asn	Lys	Lys	Glu				
			180					185					190						
Asp	Lys	Arg	Thr	Leu	Trp	Thr	Thr	Pro	Asp	Thr	Ser	Pro	Asn	Cys	Arg				
		195					200					205							

Ile Asp Gln Asp Lys Asp Ser Lys Leu Thr Leu Val Leu Thr Lys Cys  
210 215 220

Gly Ser Gln Ile Leu Ala Asn Val Ser Leu Ile Val Val Ala Gly Arg  
225 230 235 240

Tyr Lys Ile Ile Asn Asn Asn Thr Asn Pro Ala Leu Lys Gly Phe Thr  
245 250 255

Ile Lys Leu Leu Phe Asp Lys Asn Gly Val Leu Met Glu Ser Ser Asn  
260 265 270

Leu Gly Lys Ser Tyr Trp Asn Phe Arg Asn Gln Asn Ser Ile Met Ser  
275 280 285

Thr Ala Tyr Glu Lys Ala Ile Gly Phe Met Pro Asn Leu Val Ala Tyr  
290 295 300

Pro Lys Pro Thr Thr Gly Ser Lys Lys Tyr Ala Arg Asp Ile Val Tyr  
305 310 315 320

Gly Asn Ile Tyr Leu Gly Gly Lys Pro His Gln Pro Val Thr Ile Lys  
325 330 335

Thr Thr Phe Asn Gln Glu Thr Gly Cys Glu Tyr Ser Ile Thr Phe Asp  
340 345 350

Phe Ser Trp Ala Lys Thr Tyr Val Asn Val Glu Phe Glu Thr Thr Ser  
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Phe Thr Phe Ser Tyr Ile Ala Gln Glu  
370 375

<210> 31  
<211> 377  
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<220>  
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<222> (1)..(377)

<223> Serotype 9 fiber protein

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Ser Cys Ser Cys Pro Ser Ala Pro Thr Ile Phe Met Leu Leu Gln Met  
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Lys Arg Ala Arg Pro Ser Glu Asp Thr Phe Asn Pro Val Tyr Pro Tyr  
20 25 30

Gly Tyr Ala Arg Asn Gln Asn Ile Pro Phe Leu Thr Pro Pro Phe Val  
35 40 45

Ser Ser Asp Gly Phe Gln Asn Phe Pro Pro Gly Val Leu Ser Leu Lys  
50 55 60

Leu Ala Asp Pro Ile Ala Ile Val Asn Gly Asn Val Ser Leu Lys Val  
65 70 75 80

Gly Gly Gly Leu Thr Leu Gln Asp Gly Thr Gly Lys Leu Thr Val Asn  
85 90 95

Ala Asp Pro Pro Leu Gln Leu Thr Asn Asn Lys Leu Gly Ile Ala Leu  
100 105 110

Asp Ala Pro Phe Asp Val Ile Asp Asn Lys Leu Thr Leu Leu Ala Gly  
115 120 125

His Gly Leu Ser Ile Ile Thr Lys Glu Thr Ser Thr Leu Pro Gly Leu  
130 135 140

Ile Asn Thr Leu Val Val Leu Thr Gly Lys Gly Ile Gly Thr Glu Ser  
145 150 155 160

Thr Asp Asn Gly Gly Ser Val Cys Val Arg Val Gly Glu Gly Gly Gly  
165 170 175

Leu Ser Phe Asn Asn Asp Gly Asp Leu Val Ala Phe Asn Lys Lys Glu  
180 185 190

Asp	Lys	Arg	Thr	Leu	Trp	Thr	Thr	Pro	Asp	Thr	Ser	Pro	Asn	Cys	Lys
		195					200					205			
Ile	Asp	Gln	Asp	Lys	Asp	Ser	Lys	Leu	Thr	Leu	Val	Leu	Thr	Lys	Cys
	210					215					220				
Gly	Ser	Gln	Ile	Leu	Ala	Asn	Val	Ser	Leu	Ile	Val	Val	Ala	Gly	Lys
225					230					235					240
Tyr	Lys	Ile	Ile	Asn	Asn	Asn	Thr	Gln	Pro	Ala	Leu	Lys	Gly	Phe	Thr
				245					250					255	
Ile	Lys	Leu	Leu	Phe	Asp	Glu	Asn	Gly	Val	Leu	Met	Glu	Ser	Ser	Asn
			260					265					270		
Leu	Gly	Lys	Ser	Tyr	Trp	Asn	Phe	Arg	Asn	Glu	Asn	Ser	Ile	Met	Ser
		275					280					285			
Thr	Ala	Tyr	Glu	Lys	Ala	Ile	Gly	Phe	Met	Pro	Asn	Leu	Val	Ala	Tyr
	290					295					300				
Pro	Lys	Pro	Thr	Ala	Gly	Ser	Lys	Lys	Tyr	Ala	Arg	Asp	Ile	Val	Tyr
305					310					315					320
Gly	Asn	Ile	Tyr	Leu	Gly	Gly	Lys	Pro	Asp	Gln	Pro	Val	Thr	Ile	Lys
				325					330					335	
Thr	Thr	Phe	Asn	Gln	Glu	Thr	Gly	Cys	Glu	Tyr	Ser	Ile	Thr	Phe	Asp
			340					345					350		
Phe	Ser	Trp	Ala	Lys	Thr	Tyr	Val	Asn	Val	Glu	Phe	Glu	Thr	Thr	Ser
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	370					375									

<210> 32  
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<220>  
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<400> 32

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			20					25					30		

Gly	Tyr	Ala	Arg	Asn	Gln	Asn	Ile	Xaa	Phe	Xaa	Thr	Pro	Pro	Phe	Val
		35					40					45			
Xaa	Ser	Asp	Gly	Phe	Lys	Asn	Phe	Pro	Pro	Gly	Val	Leu	Ser	Leu	Lys
	50					55					60				
Leu	Ala	Asp	Pro	Ile	Thr	Ile	Ala	Asn	Gly	Asp	Val	Ser	Leu	Lys	Val
65					70					75					80
Gly	Gly	Gly	Leu	Thr	Leu	Gln	Glu	Gly	Ser	Leu	Thr	Val	Asp	Pro	Lys
				85					90					95	
Ala	Pro	Leu	Gln	Leu	Ala	Asn	Asp	Lys	Lys	Leu	Glu	Leu	Val	Tyr	Asp
			100					105					110		
Asp	Pro	Phe	Glu	Val	Ser	Thr	Asn	Lys	Leu	Ser	Leu	Lys	Val	Gly	His
		115					120					125			
Gly	Leu	Lys	Val	Leu	Asp	Asp	Lys	Ser	Ala	Gly	Gly	Leu	Lys	Asp	Leu
	130					135					140				
Ile	Gly	Lys	Leu	Val	Val	Leu	Thr	Gly	Lys	Gly	Ile	Gly	Ile	Glu	Asn
145					150					155					160
Leu	Gln	Asn	Asp	Asp	Gly	Ser	Ser	Arg	Gly	Val	Gly	Ile	Asn	Val	Arg
				165					170					175	
Leu	Gly	Thr	Asp	Gly	Gly	Leu	Ser	Phe	Asp	Arg	Lys	Gly	Glu	Leu	Val
			180					185					190		
Ala	Trp	Asn	Arg	Lys	Asp	Asp	Arg	Arg	Thr	Leu	Trp	Thr	Thr	Pro	Asp
		195					200					205			
Pro	Ser	Pro	Asn	Cys	Lys	Ala	Glu	Thr	Glu	Lys	Asp	Ser	Lys	Leu	Thr
	210					215					220				
Leu	Val	Leu	Thr	Lys	Cys	Gly	Ser	Gln	Ile	Leu	Ala	Thr	Val	Ser	Ile
225					230					235					240

Ile Val Leu Lys Gly Lys Tyr Glu Phe Val Lys Lys Glu Thr Glu Pro  
245 250 255

Lys Ser Phe Asp Val Lys Leu Leu Phe Asp Ser Lys Gly Val Leu Leu  
260 265 270

Pro Thr Ser Asn Leu Ser Lys Glu Tyr Trp Asn Tyr Arg Ser Tyr Asp  
275 280 285

Asn Asn Ile Gly Thr Pro Tyr Glu Asn Ala Val Pro Phe Met Pro Asn  
290 295 300

Leu Lys Ala Tyr Pro Lys Pro Thr Lys Thr Ala Ser Asp Lys Ala Glu  
305 310 315 320

Asn Lys Ile Ser Ser Ala Lys Asn Lys Ile Val Ser Asn Phe Tyr Phe  
325 330 335

Gly Gly Gln Ala Tyr Gln Pro Gly Thr Ile Ile Ile Lys Phe Asn Glu  
340 345 350

Glu Ile Asp Glu Thr Cys Ala Tyr Ser Ile Thr Phe Asn Phe Gly Trp  
355 360 365

Gly Lys Val Tyr Asp Asn Pro Phe Pro Phe Asp Thr Thr Ser Phe Thr  
370 375 380

Xaa Ser Tyr Ile Ala Gln Glu  
385 390

<210> 33

<211> 290

<212> PRT

<213> adenoviridae

<220>

<221> VARIANT

<222> (1)..(290)

<223> Serotype 14 fiber protein

<400> 33

His	Pro	Phe	Ile	Asn	Pro	Gly	Phe	Ile	Ser	Pro	Asn	Gly	Phe	Thr	Gln
1				5					10					15	
Ser	Pro	Asp	Gly	Val	Leu	Thr	Leu	Lys	Cys	Leu	Thr	Pro	Leu	Thr	Thr
			20					25					30		
Thr	Gly	Gly	Ser	Leu	Gln	Leu	Lys	Val	Gly	Gly	Gly	Leu	Thr	Val	Asp
		35					40					45			
Asp	Thr	Asp	Gly	Thr	Leu	Gln	Glu	Asn	Ile	Gly	Ala	Thr	Thr	Pro	Leu
	50					55					60				
Val	Lys	Thr	Gly	His	Ser	Ile	Gly	Leu	Ser	Leu	Gly	Ala	Gly	Leu	Gly
65					70					75					80
Thr	Asp	Glu	Asn	Lys	Leu	Cys	Thr	Lys	Leu	Gly	Glu	Gly	Leu	Thr	Phe
				85					90					95	
Asn	Ser	Asn	Asn	Ile	Cys	Ile	Asp	Asp	Asn	Ile	Asn	Thr	Leu	Trp	Thr
			100					105					110		
Gly	Val	Asn	Pro	Thr	Glu	Ala	Asn	Cys	Gln	Met	Met	Asp	Ser	Ser	Glu
		115					120					125			
Ser	Asn	Asp	Cys	Lys	Leu	Ile	Leu	Thr	Leu	Val	Lys	Thr	Gly	Ala	Leu
	130					135					140				
Val	Thr	Ala	Phe	Val	Tyr	Val	Ile	Gly	Val	Ser	Asn	Asn	Phe	Asn	Met
145					150					155					160
Leu	Thr	Thr	Tyr	Arg	Asn	Ile	Asn	Phe	Thr	Ala	Glu	Leu	Phe	Phe	Asp
				165					170					175	
Ser	Ala	Gly	Asn	Leu	Leu	Thr	Ser	Leu	Ser	Ser	Leu	Lys	Thr	Pro	Leu
			180					185					190		
Asn	His	Lys	Ser	Gly	Gln	Thr	Trp	Leu	Leu	Val	Pro	Leu	Leu	Met	Leu
		195					200					205			

Lys Val Ser Cys Pro Ala Gln Leu Leu Ile Leu Ser Ile Ile Ile Leu  
 210 215 220

Glu Lys Asn Lys Thr Thr Phe Thr Glu Leu Val Thr Thr Gln Leu Val  
 225 230 235 240

Ile Thr Leu Leu Phe Pro Leu Thr Ile Ser Val Met Leu Asn Gln Arg  
 245 250 255

Ala Ile Arg Ala Asp Thr Ser Tyr Cys Ile Arg Ile Thr Trp Ser Trp  
 260 265 270

Asn Thr Gly Asp Ala Pro Glu Gly Gln Thr Ser Ala Thr Thr Leu Val  
 275 280 285

Thr Ser  
 290

<210> 34  
 <211> 345  
 <212> PRT  
 <213> adenoviridae

<220>  
 <221> VARIANT  
 <222> (1)..(345)  
 <223> Serotype 20 fiber protein

<400> 34

Ile Gln Asn Ile Pro Phe Leu Thr Pro Pro Phe Val Ser Ser Asp Gly  
 1 5 10 15

Leu Gln Asn Phe Pro Pro Gly Val Leu Ser Leu Lys Leu Ala Asp Pro  
 20 25 30

Ile Ala Ile Val Asn Gly Asn Val Ser Leu Lys Val Gly Gly Gly Ile  
 35 40 45

Thr Val Glu Gln Asp Ser Gly Gln Leu Ile Ala Asn Pro Lys Ala Pro  
 50 55 60

Leu	Gln	Val	Ala	Asn	Asp	Lys	Leu	Glu	Leu	Ser	Tyr	Ala	Tyr	Pro	Phe
65					70					75					80
Glu	Thr	Ser	Ala	Asn	Lys	Leu	Ser	Leu	Lys	Val	Gly	Gln	Gly	Leu	Lys
				85					90					95	
Val	Leu	Asp	Glu	Lys	Asp	Ser	Gly	Gly	Leu	Gln	Asn	Leu	Leu	Gly	Lys
			100					105					110		
Leu	Val	Val	Leu	Thr	Gly	Lys	Gly	Ile	Gly	Val	Glu	Glu	Leu	Lys	Asn
		115					120					125			
Pro	Asp	Asn	Thr	Asn	Arg	Gly	Val	Gly	Ile	Asn	Val	Arg	Leu	Gly	Lys
	130					135					140				
Asp	Gly	Gly	Leu	Ser	Phe	Asn	Lys	Asn	Gly	Glu	Leu	Val	Ala	Trp	Asn
145					150					155					160
Lys	His	Asn	Asp	Thr	Gly	Thr	Leu	Trp	Thr	Thr	Pro	Asp	Pro	Ser	Pro
				165					170					175	
Asn	Cys	Lys	Ile	Glu	Glu	Val	Lys	Asp	Ser	Lys	Leu	Thr	Leu	Val	Leu
			180					185					190		
Thr	Lys	Cys	Gly	Ser	Gln	Ile	Leu	Ala	Thr	Met	Ala	Phe	Gln	Val	Val
		195					200					205			
Lys	Gly	Thr	Tyr	Glu	Asn	Ile	Ser	Lys	Asn	Thr	Ala	Lys	Asn	Ser	Phe
	210					215					220				
Ser	Ile	Lys	Leu	Leu	Phe	Asp	Asp	Asn	Gly	Lys	Leu	Leu	Glu	Gly	Ser
225					230					235					240
Ser	Leu	Asp	Lys	Asp	Tyr	Trp	Asn	Phe	Arg	Ser	Asp	Asp	Ser	Ile	Ile
				245					250					255	
Pro	Asn	Gln	Tyr	Asp	Asn	Ala	Val	Pro	Phe	Met	Pro	Asn	Leu	Lys	Ala
			260					265					270		

Tyr Pro Lys Pro Ser Thr Val Leu Pro Ser Thr Asp Lys Asn Ser Asn  
275 280 285

Gly Lys Asn Thr Ile Val Ser Asn Leu Tyr Leu Glu Gly Lys Ala Tyr  
290 295 300

Gln Pro Val Ala Val Thr Ile Thr Phe Asn Lys Glu Ile Gly Cys Thr  
305 310 315 320

Tyr Ser Ile Thr Phe Asp Phe Gly Trp Ala Lys Thr Tyr Asp Val Pro  
325 330 335

Ile Pro Phe Asp Ser Ser Ser Phe Thr  
340 345

<210> 35

<211> 346

<212> PRT

<213> adenoviridae

<220>

<221> VARIANT

<222> (1)..(346)

<223> Serotype 23 fiber protein

<400> 35

Gln Asn Ile Pro Phe Leu Thr Pro Pro Phe Val Ser Ser Asp Gly Phe  
1 5 10 15

Gln Asn Phe Pro Pro Gly Val Leu Ser Leu Lys Leu Ala Asp Pro Ile  
20 25 30

Ala Ile Thr Asn Gly Asp Val Ser Leu Lys Val Gly Gly Gly Leu Thr  
35 40 45

Val Glu Gln Asp Ser Gly Asn Leu Lys Val Asn Thr Lys Ala Pro Leu  
50 55 60

Gln Val Ala Ala Asp Lys Gln Leu Glu Ile Ala Leu Ala Asp Pro Phe  
65 70 75 80

Glu	Val	Ser	Lys	Gly	Arg	Leu	Gly	Ile	Lys	Ala	Gly	His	Gly	Leu	Lys	85	90	95
Val	Ile	Asp	Asn	Ser	Ile	Ser	Gly	Leu	Glu	Gly	Leu	Val	Gly	Thr	Leu	100	105	110
Val	Val	Leu	Thr	Gly	His	Gly	Ile	Gly	Thr	Glu	Asn	Leu	Leu	Asn	Asn	115	120	125
Asp	Gly	Ser	Ser	Arg	Gly	Val	Gly	Ile	Asn	Val	Arg	Leu	Gly	Lys	Asp	130	135	140
Gly	Gly	Leu	Ser	Phe	Asp	Lys	Lys	Gly	Asp	Leu	Val	Ala	Trp	Asn	Lys	145	150	155
Lys	Tyr	Asp	Thr	Arg	Thr	Leu	Trp	Thr	Thr	Pro	Asp	Pro	Ser	Pro	Asn	165	170	175
Cys	Lys	Val	Ile	Glu	Ala	Lys	Asp	Ser	Lys	Leu	Thr	Leu	Val	Leu	Thr	180	185	190
Lys	Cys	Gly	Ser	Gln	Ile	Leu	Ala	Asn	Met	Ser	Leu	Leu	Ile	Leu	Lys	195	200	205
Gly	Thr	Tyr	Glu	Tyr	Ile	Ser	Asn	Ala	Ile	Ala	Asn	Lys	Ser	Phe	Thr	210	215	220
Ile	Lys	Leu	Leu	Phe	Asn	Asp	Lys	Gly	Val	Leu	Met	Asp	Gly	Ser	Ser	225	230	235
Leu	Asp	Lys	Asp	Tyr	Trp	Asn	Tyr	Lys	Ser	Asp	Asp	Ser	Val	Met	Ser	245	250	255
Lys	Ala	Tyr	Glu	Asn	Ala	Val	Pro	Phe	Met	Pro	Asn	Leu	Lys	Ala	Tyr	260	265	270
Pro	Asn	Pro	Thr	Thr	Ser	Thr	Thr	Asn	Pro	Ser	Thr	Asp	Lys	Lys	Ser	275	280	285



Asn Gly Lys Asn Ala Ile Val Ser Asn Val Tyr Leu Glu Gly Arg Ala  
 290 295 300

Tyr Gln Pro Val Ala Ile Thr Ile Thr Phe Asn Lys Glu Thr Gly Cys  
 305 310 315 320

Thr Tyr Ser Met Thr Phe Asp Phe Gly Trp Ser Lys Val Tyr Asn Asp  
 325 330 335

Pro Ile Pro Phe Asp Thr Ser Ser Leu Thr  
 340 345

<210> 36

<211> 390

<212> PRT

<213> adenoviridae

<220>

<221> VARIANT

<222> (1)..(390)

<223> Serotype 24 fiber protein

<400> 36

Ser Cys Ser Cys Pro Ser Ala Pro Thr Ile Phe Met Leu Leu Gln Met  
 1 5 10 15

Lys Arg Ala Arg Pro Ser Glu Asp Thr Phe Asn Pro Val Tyr Pro Tyr  
 20 25 30

Gly Tyr Ala Arg Asn Gln Asn Ile Pro Phe Leu Thr Pro Pro Phe Val  
 35 40 45

Ser Ser Asp Gly Phe Gln Asn Phe Pro Pro Gly Val Leu Ser Leu Lys  
 50 55 60

Leu Ala Asp Pro Ile Ala Ile Thr Asn Gly Asp Val Ser Leu Lys Val  
 65 70 75 80

Gly Gly Gly Leu Thr Val Glu Lys Asp Ser Gly Asn Leu Lys Val Asn  
 85 90 95

Pro Lys Ala Pro Leu Gln Val Thr Thr Asp Lys Gln Leu Glu Ile Ala  
 100 105 110

Leu Ala Tyr Pro Phe Glu Val Ser Asn Gly Lys Leu Gly Ile Lys Ala  
 115 120 125

Gly His Gly Leu Lys Val Ile Asp Lys Ile Ala Gly Leu Glu Gly Leu  
 130 135 140

Ala Gly Thr Leu Val Val Leu Thr Gly Lys Gly Ile Gly Thr Glu Asn  
 145 150 155 160

Leu Glu Asn Ser Asp Gly Ser Ser Arg Gly Val Gly Ile Asn Val Arg  
 165 170 175

Leu Ala Lys Asp Gly Gly Leu Ser Phe Asp Lys Lys Gly Asp Leu Val  
 180 185 190

Ala Trp Asn Lys His Asp Asp Arg Arg Thr Leu Trp Thr Thr Pro Asp  
 195 200 205

Pro Ser Pro Asn Cys Thr Ile Asp Gln Glu Arg Asp Ser Lys Leu Thr  
 210 215 220

Leu Val Leu Thr Lys Cys Gly Ser Gln Ile Leu Ala Asn Val Ser Leu  
 225 230 235 240

Leu Val Val Lys Gly Lys Phe Ser Asn Ile Asn Asn Asn Thr Asn Pro  
 245 250 255

Thr Asp Lys Lys Ile Thr Val Lys Leu Leu Phe Asn Glu Lys Gly Val  
 260 265 270

Leu Met Asp Ser Ser Thr Leu Lys Lys Glu Tyr Trp Asn Tyr Arg Asn  
 275 280 285

Asp Asn Ser Thr Val Ser Gln Ala Tyr Asp Asn Ala Val Pro Phe Met  
 290 295 300

Pro Asn Ile Lys Ala Tyr Pro Lys Pro Thr Thr Asp Thr Ser Ala Lys  
 305 310 315 320

Pro Glu Asp Lys Lys Ser Ala Ala Lys Arg Tyr Ile Val Ser Asn Val  
 325 330 335

Tyr Ile Gly Gly Leu Pro Asp Lys Thr Val Val Ile Thr Ile Lys Phe  
 340 345 350

Asn Ala Glu Thr Glu Cys Ala Tyr Ser Ile Thr Phe Glu Phe Thr Trp  
 355 360 365

Ala Lys Thr Phe Glu Asp Val Gln Phe Asp Ser Ser Ser Phe Thr Phe  
 370 375 380

Ser Tyr Ile Ala Gln Glu  
 385 390

<210> 37  
 <211> 375  
 <212> PRT  
 <213> adenoviridae

<220>  
 <221> VARIANT  
 <222> (1)..(375)  
 <223> Serotype 25 fiber protein

<220>  
 <221> MISC\_FEATURE  
 <222> (141)  
 <223> 'Xaa' at position 41 indicates an unidentified amino acid  
 due to unidentified nucleotide(s)

<400> 37

Ser Cys Ser Cys Pro Ser Ala Pro Thr Ile Phe Met Leu Leu Gln Met  
 1 5 10 15

Lys Arg Ala Arg Pro Ser Glu Asp Thr Phe Asn Pro Val Tyr Pro Tyr  
 20 25 30

Gly Tyr Ala Arg Asn Gln Asn Ile Pro Phe Leu Thr Pro Pro Phe Val  
 35 40 45

Ser	Ser	Asp	Gly	Phe	Gln	Asn	Phe	Pro	Pro	Gly	Val	Leu	Ser	Leu	Lys
	50					55					60				
Leu	Ala	Asp	Pro	Ile	Thr	Ile	Ser	Asn	Gly	Asp	Val	Ser	Leu	Lys	Val
65					70					75					80
Gly	Gly	Gly	Leu	Thr	Val	Glu	Gln	Asp	Ser	Gly	Asn	Leu	Ser	Val	Asn
				85					90					95	
Pro	Lys	Ala	Pro	Leu	Gln	Val	Gly	Thr	Asp	Lys	Lys	Leu	Glu	Leu	Ala
			100					105					110		
Leu	Ala	Pro	Pro	Phe	Asn	Val	Lys	Asp	Asn	Lys	Leu	Asp	Leu	Leu	Val
		115					120					125			
Gly	Asp	Gly	Leu	Lys	Val	Ile	Asp	Lys	Ser	Ile	Ser	Xaa	Leu	Pro	Gly
	130					135					140				
Leu	Leu	Asn	Tyr	Leu	Val	Val	Leu	Thr	Gly	Lys	Gly	Ile	Gly	Asn	Glu
145					150					155					160
Glu	Leu	Lys	Asn	Asp	Asp	Gly	Ser	Asn	Lys	Gly	Val	Gly	Leu	Cys	Val
				165					170					175	
Arg	Ile	Gly	Glu	Gly	Gly	Gly	Leu	Thr	Phe	Asp	Asp	Lys	Gly	Tyr	Leu
			180					185					190		
Val	Ala	Trp	Asn	Lys	Lys	His	Asp	Ile	Arg	Thr	Leu	Trp	Thr	Thr	Leu
		195					200					205			
Asp	Pro	Ser	Pro	Asn	Cys	Arg	Ile	Asp	Val	Asp	Lys	Asp	Ser	Lys	Leu
	210					215					220				
Thr	Leu	Val	Leu	Thr	Lys	Cys	Gly	Ser	Gln	Ile	Leu	Ala	Asn	Val	Ser
225					230					235					240
Leu	Leu	Val	Val	Lys	Gly	Arg	Phe	Gln	Asn	Leu	Asn	Tyr	Lys	Thr	Asn
				245					250					255	

Pro Asn Leu Pro Lys Thr Phe Thr Ile Lys Leu Leu Phe Asp Glu Asn  
260 265 270

Gly Ile Leu Lys Asp Ser Ser Asn Leu Asp Lys Asn Tyr Trp Asn Tyr  
275 280 285

Arg Asn Gly Asn Ser Ile Leu Ala Glu Gln Tyr Lys Asn Ala Val Gly  
290 295 300

Phe Met Pro Asn Leu Ala Ala Tyr Pro Lys Ser Thr Thr Thr Gln Ser  
305 310 315 320

Lys Leu Tyr Ala Arg Asn Thr Ile Phe Gly Asn Ile Tyr Leu Asp Ser  
325 330 335

Gln Ala Tyr Asn Pro Val Val Ile Lys Ile Thr Phe Asn Gln Glu Ala  
340 345 350

Asp Ser Ala Tyr Ser Ile Thr Leu Asn Tyr Ser Trp Gly Lys Asp Tyr  
355 360 365

Glu Asn Ile Pro Phe Asp Ser  
370 375

<210> 38  
<211> 335  
<212> PRT  
<213> adenoviridae

<220>  
<221> VARIANT  
<222> (1)..(335)  
<223> Serotype 27 fiber protein

<400> 38

Ile Pro Phe Leu Thr Pro Pro Phe Val Ser Ser Asp Gly Phe Lys Asn  
1 5 10 15

Phe Pro Pro Gly Val Leu Ser Leu Lys Leu Ala Asp Pro Ile Thr Ile  
20 25 30

Thr Asn Gly Asp Val Ser Leu Lys Val Gly Gly Gly Leu Val Val Glu  
35 40 45

Lys Glu Ser Gly Lys Leu Ser Val Asp Pro Lys Thr Pro Leu Gln Val  
50 55 60

Ala Ser Asp Asn Lys Leu Glu Leu Ser Tyr Asn Ala Pro Phe Lys Val  
65 70 75 80

Glu Asn Asp Lys Leu Ser Leu Asp Val Gly His Gly Leu Lys Val Ile  
85 90 95

Gly Asn Glu Val Ser Ser Leu Pro Gly Leu Ile Asn Lys Leu Val Val  
100 105 110

Leu Thr Gly Lys Gly Ile Gly Thr Glu Glu Leu Lys Glu Gln Asn Ser  
115 120 125

Asp Lys Ile Ile Gly Val Gly Ile Asn Val Arg Ala Arg Gly Gly Leu  
130 135 140

Ser Phe Asp Asn Asp Gly Tyr Leu Val Ala Trp Asn Pro Lys Tyr Asp  
145 150 155 160

Thr Arg Thr Leu Trp Thr Thr Pro Asp Thr Ser Pro Asn Cys Lys Met  
165 170 175

Leu Thr Lys Lys Asp Ser Lys Leu Thr Leu Thr Leu Thr Lys Cys Gly  
180 185 190

Ser Gln Ile Leu Gly Asn Val Ser Leu Leu Ala Val Ser Gly Lys Tyr  
195 200 205

Leu Asn Met Thr Lys Asp Glu Thr Gly Val Lys Ile Ile Leu Leu Phe  
210 215 220

Asp Arg Asn Gly Val Leu Met Gln Glu Ser Ser Leu Asp Lys Glu Tyr  
225 230 235 240

Trp Asn Tyr Arg Asn Asp Asn Asn Val Ile Gly Thr Pro Tyr Glu Asn  
245 250 255

Ala Val Gly Phe Met Pro Asn Leu Val Ala Tyr Pro Lys Pro Thr Ser  
260 265 270

Ala Asp Ala Lys Asn Tyr Ser Arg Ser Lys Ile Ile Ser Asn Val Tyr  
275 280 285

Leu Lys Gly Leu Ile Tyr Gln Pro Val Ile Ile Ile Ala Ser Phe Asn  
290 295 300

Gln Glu Thr Thr Asn Gly Cys Val Tyr Ser Ile Ser Phe Asp Phe Thr  
305 310 315 320

Cys Ser Lys Asp Tyr Thr Gly Gln Gln Phe Asp Val Thr Ser Phe  
325 330 335

<210> 39  
<211> 374  
<212> PRT  
<213> adenoviridae

<220>  
<221> VARIANT  
<222> (1)..(374)  
<223> Serotype 28 fiber protein

<400> 39

Ser Cys Ser Cys Pro Ser Ala Pro Thr Ile Phe Met Leu Leu Gln Met  
1 5 10 15

Lys Arg Ala Arg Pro Ser Glu Asp Thr Phe Asn Pro Val Tyr Pro Tyr  
20 25 30

Gly Tyr Ala Arg Asn Gln Asn Ile Pro Phe Leu Thr Pro Pro Phe Val  
35 40 45

Ser Ser Asp Gly Phe Gln Asn Phe Pro Pro Gly Val Leu Ser Leu Lys  
50 55 60

Leu	Ala	Asp	Pro	Ile	Thr	Ile	Ala	Asn	Gly	Asp	Val	Ser	Leu	Lys	Leu	
65					70					75					80	
Gly	Gly	Gly	Leu	Thr	Val	Glu	Lys	Glu	Ser	Gly	Asn	Leu	Thr	Val	Asn	
				85					90					95		
Pro	Lys	Ala	Pro	Leu	Gln	Val	Ala	Ser	Gly	Gln	Leu	Glu	Leu	Ala	Tyr	
			100					105					110			
Tyr	Ser	Pro	Phe	Asp	Val	Lys	Asn	Asn	Met	Leu	Thr	Leu	Lys	Ala	Gly	
		115					120					125				
His	Gly	Leu	Ala	Val	Val	Thr	Lys	Asp	Asn	Thr	Asp	Leu	Gln	Pro	Leu	
	130					135					140					
Met	Gly	Thr	Leu	Val	Val	Leu	Thr	Gly	Lys	Gly	Ile	Gly	Thr	Gly	Thr	
145					150					155					160	
Ser	Ala	His	Gly	Gly	Thr	Ile	Asp	Val	Arg	Ile	Gly	Lys	Asn	Gly	Ser	
				165					170					175		
Leu	Ala	Phe	Asp	Lys	Asn	Gly	Asp	Leu	Val	Ala	Trp	Asp	Lys	Glu	Asn	
			180					185					190			
Asp	Arg	Arg	Thr	Leu	Trp	Thr	Thr	Pro	Asp	Thr	Ser	Pro	Asn	Cys	Lys	
		195					200					205				
Met	Ser	Glu	Val	Lys	Asp	Ser	Lys	Leu	Thr	Leu	Ile	Leu	Thr	Lys	Cys	
	210					215					220					
Gly	Ser	Gln	Ile	Leu	Gly	Ser	Val	Ser	Leu	Leu	Ala	Val	Lys	Gly	Glu	
225					230					235					240	
Tyr	Gln	Asn	Met	Thr	Ala	Ser	Thr	Asn	Lys	Asn	Val	Lys	Ile	Thr	Leu	
				245					250					255		
Leu	Phe	Asp	Ala	Asn	Gly	Val	Leu	Leu	Glu	Gly	Ser	Ser	Leu	Asp	Lys	
			260					265					270			



Glu Tyr Trp Asn Phe Arg Asn Asn Asp Ser Thr Val Ser Gly Lys Tyr  
 275 280 285

Glu Asn Ala Val Pro Phe Met Pro Asn Ile Thr Ala Tyr Lys Pro Val  
 290 295 300

Asn Ser Lys Ser Tyr Ala Arg Ser His Ile Phe Gly Asn Val Tyr Ile  
 305 310 315 320

Asp Ala Lys Pro Tyr Asn Pro Val Val Ile Lys Ile Ser Phe Asn Gln  
 325 330 335

Glu Thr Gln Asn Asn Cys Val Tyr Ser Ile Ser Phe Asp Tyr Thr Cys  
 340 345 350

Ser Lys Glu Tyr Thr Gly Met Gln Phe Asp Val Thr Ser Phe Thr Phe  
 355 360 365

Ser Tyr Ile Ala Gln Glu  
 370

<210> 40

<211> 343

<212> PRT

<213> adenoviridae

<220>

<221> VARIANT

<222> (1)..(343)

<223> Serotype 29 fiber protein

<400> 40

Gln Asn Ile Pro Phe Leu Thr Pro Pro Phe Val Ser Ser Asp Gly Phe  
 1 5 10 15

Lys Asn Phe Pro Pro Gly Val Leu Ser Leu Lys Leu Ala Asp Pro Ile  
 20 25 30

Ala Ile Thr Asn Gly Asp Val Ser Leu Lys Val Gly Gly Gly Leu Thr  
 35 40 45

Val	Glu	Gln	Asp	Ser	Gly	Asn	Leu	Ser	Val	Asn	Pro	Lys	Ala	Pro	Leu	
50						55					60					
Gln	Val	Gly	Thr	Asp	Lys	Lys	Leu	Glu	Leu	Ala	Leu	Ala	Pro	Pro	Phe	
65					70					75					80	
Asp	Val	Arg	Asp	Asn	Lys	Leu	Ala	Ile	Leu	Val	Gly	Asp	Gly	Leu	Lys	
				85					90					95		
Val	Ile	Asp	Arg	Ser	Ile	Ser	Asp	Leu	Pro	Gly	Leu	Leu	Asn	Tyr	Leu	
			100					105					110			
Val	Val	Leu	Thr	Gly	Lys	Gly	Ile	Gly	Asn	Glu	Glu	Leu	Lys	Asn	Asp	
		115					120					125				
Asp	Gly	Ser	Asn	Lys	Gly	Val	Gly	Leu	Cys	Val	Arg	Ile	Gly	Glu	Gly	
	130					135					140					
Gly	Gly	Leu	Thr	Phe	Asp	Asp	Lys	Gly	Tyr	Leu	Val	Ala	Trp	Asn	Asn	
145					150					155					160	
Lys	His	Asp	Ile	Arg	Thr	Leu	Trp	Thr	Thr	Leu	Asp	Pro	Ser	Pro	Asn	
				165					170					175		
Cys	Lys	Ile	Asp	Ile	Glu	Lys	Asp	Ser	Lys	Leu	Thr	Leu	Val	Leu	Thr	
			180					185					190			
Lys	Cys	Gly	Ser	Gln	Ile	Leu	Ala	Asn	Val	Ser	Leu	Ile	Ile	Val	Asn	
		195					200					205				
Gly	Lys	Phe	Lys	Ile	Leu	Asn	Asn	Lys	Thr	Asp	Pro	Ser	Leu	Pro	Lys	
	210					215					220					
Ser	Phe	Asn	Ile	Lys	Leu	Leu	Phe	Asp	Gln	Asn	Gly	Val	Leu	Leu	Glu	
225					230					235					240	
Asn	Ser	Asn	Ile	Glu	Lys	Gln	Tyr	Leu	Asn	Phe	Arg	Ser	Gly	Asp	Ser	
				245					250					255		

Ile Leu Pro Glu Pro Tyr Lys Asn Ala Ile Gly Phe Met Pro Asn Leu  
260 265 270

Leu Ala Tyr Ala Lys Ala Thr Thr Asp Gln Ser Lys Ile Tyr Ala Arg  
275 280 285

Asn Thr Ile Tyr Gly Asn Ile Tyr Leu Asp Asn Gln Pro Tyr Asn Pro  
290 295 300

Val Val Ile Lys Ile Thr Phe Asn Asn Glu Ala Asp Ser Ala Tyr Ser  
305 310 315 320

Ile Thr Phe Asn Tyr Ser Trp Thr Lys Asp Tyr Asp Asn Ile Pro Phe  
325 330 335

Asp Ser Thr Ser Phe Thr Ser  
340

<210> 41

<211> 386

<212> PRT

<213> adenoviridae

<220>

<221> VARIANT

<222> (1)..(386)

<223> Serotype 30 fiber protein

<220>

<221> MISC\_FEATURE

<222> (23)

<223> 'Xaa' at position 23 indicates unidentified amino acid due to unidentified nucleotide(s)

<220>

<221> MISC\_FEATURE

<222> (43)

<223> 'Xaa' at position 43 indicates unidentified amino acid due to Unidentified nucleotide(s)

<220>

<221> MISC\_FEATURE

<222> (49)

<223> 'Xaa' at position 49 indicates unidentified amino acid due to unidentified nucleotide(s)

<220>  
 <221> MISC\_FEATURE  
 <222> (97)  
 <223> 'Xaa' at position 97 indicates unidentified amino acid due to unidentified nucleotide(s)

<220>  
 <221> MISC\_FEATURE  
 <222> (152)  
 <223> 'Xaa' at position 152 indicates unidentified amino acid due to unidentified nucleotide(s)

<220>  
 <221> MISC\_FEATURE  
 <222> (186)..(786)  
 <223> 'Xaa' at position 186 indicates unidentified amino acid due to unidentified nucleotide(s)

<400> 41

Ser Cys Ser Cys Pro Ser Ala Pro Thr Ile Phe Met Leu Leu Gln Met  
 1 5 10 15

Lys Arg Ala Arg Pro Ser Xaa Asp Thr Phe Asn Pro Val Tyr Pro Tyr  
 20 25 30

Gly Tyr Ala Arg Asn Gln Asn Ile Pro Phe Xaa Thr Pro Pro Phe Val  
 35 40 45

Xaa Ser Asp Gly Phe Lys Asn Phe Pro Pro Gly Val Leu Ser Leu Lys  
 50 55 60

Leu Ala Asp Pro Ile Ala Ile Thr Asn Gly Asp Val Ser Leu Lys Val  
 65 70 75 80

Gly Gly Gly Leu Thr Val Glu Gln Asp Ser Gly Asn Leu Ser Val Asn  
 85 90 95

Xaa Lys Ala Pro Leu Gln Val Gly Thr Asp Lys Lys Leu Glu Leu Ala  
 100 105 110

Leu Ala Pro Pro Phe Asp Val Arg Asp Asn Lys Leu Ala Ile Leu Val  
 115 120 125

Gly	Asp	Gly	Leu	Lys	Val	Ile	Asp	Arg	Ser	Ile	Ser	Asp	Leu	Pro	Gly	
	130					135					140					
Leu	Leu	Asn	Tyr	Leu	Val	Val	Xaa	Thr	Gly	Lys	Gly	Ile	Gly	Asn	Glu	
145					150					155					160	
Glu	Leu	Lys	Asn	Asp	Asp	Gly	Ser	Asn	Lys	Gly	Val	Gly	Leu	Cys	Val	
				165					170					175		
Arg	Ile	Gly	Glu	Gly	Gly	Gly	Leu	Thr	Xaa	Asp	Asp	Lys	Gly	Tyr	Leu	
			180					185					190			
Val	Ala	Trp	Asn	Asn	Lys	His	Asp	Ile	Arg	Thr	Leu	Trp	Thr	Thr	Leu	
		195					200					205				
Asp	Pro	Ser	Pro	Asn	Cys	Lys	Ile	Asp	Ile	Glu	Lys	Asp	Ser	Lys	Leu	
	210					215					220					
Thr	Leu	Val	Leu	Thr	Lys	Cys	Gly	Ser	Gln	Ile	Leu	Ala	Asn	Val	Ser	
225					230					235					240	
Leu	Ile	Ile	Val	Asn	Gly	Lys	Phe	Lys	Ile	Leu	Asn	Asn	Lys	Thr	Asp	
				245					250					255		
Pro	Ser	Leu	Pro	Lys	Ser	Phe	Asn	Ile	Lys	Leu	Leu	Phe	Asp	Gln	Asn	
			260					265					270			
Gly	Val	Leu	Leu	Glu	Asn	Ser	Asn	Ile	Glu	Lys	Gln	Tyr	Leu	Asn	Phe	
		275					280					285				
Arg	Ser	Gly	Asp	Ser	Ile	Leu	Pro	Glu	Pro	Tyr	Lys	Asn	Ala	Ile	Gly	
	290					295					300					
Phe	Met	Pro	Asn	Leu	Leu	Ala	Tyr	Ala	Lys	Ala	Thr	Thr	Asp	Gln	Ser	
305					310					315					320	
Lys	Ile	Tyr	Ala	Arg	Asn	Thr	Ile	Tyr	Gly	Asn	Ile	Tyr	Leu	Asp	Asn	
				325					330					335		

Gln Pro Tyr Asn Pro Val Val Ile Lys Ile Thr Phe Asn Asn Glu Ala  
340 345 350

Asp Ser Ala Tyr Ser Ile Thr Phe Asn Tyr Ser Trp Thr Lys Asp Tyr  
355 360 365

Asp Asn Ile Pro Phe Asp Ser Thr Ser Phe Thr Phe Ser Tyr Ile Ala  
370 375 380

Gln Glu  
385

<210> 42  
<211> 391  
<212> PRT  
<213> adenoviridae

<220>  
<221> VARIANT  
<222> (1)..(391)  
<223> Serotype 32 fiber protein

<400> 42

Ser Cys Ser Cys Pro Ser Ala Pro Thr Ile Phe Met Leu Leu Gln Met  
1 5 10 15

Lys Arg Ala Arg Pro Ser Glu Asp Thr Phe Asn Pro Val Tyr Pro Tyr  
20 25 30

Gly Tyr Ala Arg Asn Gln Asn Ile Pro Phe Leu Thr Pro Pro Phe Val  
35 40 45

Ser Ser Asp Gly Phe Gln Asn Phe Pro Pro Gly Val Leu Ser Leu Lys  
50 55 60

Leu Ala Asp Pro Ile Thr Ile Ala Asn Gly Asn Val Ser Leu Lys Val  
65 70 75 80

Gly Gly Gly Leu Thr Leu Glu Gln Asp Ser Gly Lys Leu Ile Val Asn  
85 90 95

Pro Lys Ala Pro Leu Gln Val Ala Asn Asp Lys Leu Glu Leu Ser Tyr  
100 105 110



Lys Pro Glu Asp Lys Lys Ser Ala Ala Lys Arg Tyr Ile Val Ser Asn  
325 330 335

Val Tyr Ile Gly Gly Leu Pro Asp Lys Thr Val Val Ile Thr Ile Lys  
340 345 350

Leu Asn Ala Glu Thr Glu Ser Ala Tyr Ser Met Thr Phe Glu Phe Thr  
355 360 365

Trp Ala Lys Thr Phe Glu Asn Leu Gln Phe Asp Ser Ser Ser Phe Thr  
370 375 380

Phe Ser Tyr Ile Ala Gln Glu  
385 390

<210> 43  
<211> 391  
<212> PRT  
<213> adenoviridae

<220>  
<221> VARIANT  
<222> (1)..(391)  
<223> Serotype 33 fiber protein

<400> 43

Ser Cys Ser Cys Pro Ser Ala Pro Thr Ile Phe Met Leu Leu Gln Met  
1 5 10 15

Lys Arg Ala Arg Pro Ser Glu Asp Thr Phe Asn Pro Val Tyr Pro Tyr  
20 25 30

Gly Tyr Ala Arg Asn Gln Asn Ile Pro Phe Leu Thr Pro Pro Phe Val  
35 40 45

Ser Ser Asp Gly Phe Lys Asn Phe Pro Pro Gly Val Leu Ser Leu Lys  
50 55 60

Leu Ala Asp Pro Ile Thr Ile Thr Asn Gly Asp Val Ser Leu Lys Val  
65 70 75 80



Gly	Gly	Gly	Leu	Thr	Leu	Gln	Glu	Gly	Ser	Leu	Thr	Val	Asn	Pro	Lys	85	90	95
Ala	Pro	Leu	Gln	Leu	Ala	Asn	Asp	Lys	Lys	Leu	Glu	Leu	Val	Tyr	Asp	100	105	110
Asp	Pro	Phe	Glu	Val	Ser	Thr	Asn	Lys	Leu	Ser	Leu	Lys	Val	Gly	His	115	120	125
Gly	Leu	Lys	Val	Leu	Asp	Asp	Lys	Ser	Ala	Gly	Gly	Leu	Gln	Asp	Leu	130	135	140
Ile	Gly	Lys	Leu	Val	Val	Leu	Thr	Gly	Lys	Gly	Ile	Gly	Ile	Glu	Asn	145	150	155
Leu	Gln	Asn	Asp	Asp	Gly	Ser	Ser	Arg	Gly	Val	Gly	Ile	Asn	Val	Arg	165	170	175
Leu	Gly	Thr	Asp	Gly	Gly	Leu	Ser	Phe	Asp	Arg	Lys	Gly	Glu	Leu	Val	180	185	190
Ala	Trp	Asn	Arg	Lys	Asp	Asp	Arg	Arg	Thr	Leu	Trp	Thr	Thr	Pro	Asp	195	200	205
Pro	Ser	Pro	Asn	Cys	Lys	Ala	Glu	Thr	Glu	Lys	Asp	Ser	Lys	Leu	Thr	210	215	220
Leu	Val	Leu	Thr	Lys	Cys	Gly	Ser	Gln	Ile	Leu	Ala	Thr	Val	Ser	Ile	225	230	235
Ile	Val	Leu	Lys	Gly	Lys	Tyr	Glu	Phe	Val	Lys	Lys	Glu	Thr	Glu	Pro	245	250	255
Lys	Ser	Phe	Asp	Val	Lys	Leu	Leu	Phe	Asp	Ser	Lys	Gly	Val	Leu	Leu	260	265	270
Pro	Thr	Ser	Asn	Leu	Ser	Lys	Glu	Tyr	Trp	Asn	Tyr	Arg	Ser	Tyr	Asp	275	280	285

Asn Asn Ile Gly Thr Pro Tyr Glu Asn Ala Val Pro Phe Met Pro Asn  
 290 295 300

Leu Lys Ala Tyr Pro Lys Pro Thr Lys Thr Ala Ser Asp Lys Ala Glu  
 305 310 315 320

Asn Lys Ile Ser Ser Ala Lys Asn Lys Ile Val Ser Asn Phe Tyr Phe  
 325 330 335

Gly Gly Gln Ala Tyr Gln Pro Gly Thr Ile Ile Ile Lys Phe Asn Glu  
 340 345 350

Glu Ile Asp Glu Thr Cys Ala Tyr Ser Ile Thr Phe Asn Phe Gly Trp  
 355 360 365

Gly Lys Val Tyr Asp Asn Pro Phe Pro Phe Asp Thr Thr Ser Phe Thr  
 370 375 380

Phe Ser Tyr Ile Ala Gln Glu  
 385 390

<210> 44  
 <211> 338  
 <212> PRT  
 <213> adenoviridae  
 <220>  
 <221> VARIANT  
 <222> (1)..(338)  
 <223> Serotype 34 fiber protein  
 <400> 44

Ser Cys Ser Cys Pro Ser Ala Pro Thr Ile Phe Met Leu Leu Gln Met  
 1 5 10 15

Lys Arg Ala Arg Pro Ser Glu Asp Thr Phe Asn Pro Val Tyr Pro Tyr  
 20 25 30

Glu Asp Glu Ser Thr Ser Gln His Pro Phe Ile Asn Pro Gly Phe Ile  
 35 40 45

Ser Pro Asn Gly Phe Thr Gln Ser Pro Asp Gly Val Leu Thr Leu Lys  
 50 55 60

Cys Leu Thr Pro Leu Thr Thr Thr Gly Gly Ser Leu Gln Leu Lys Val  
65 70 75 80

Gly Gly Gly Leu Thr Val Asp Asp Thr Asp Gly Thr Leu Gln Lys Asn  
85 90 95

Ile Arg Ala Thr Thr Pro Ile Thr Lys Asn Asn His Ser Val Glu Leu  
100 105 110

Thr Ile Gly Asn Gly Leu Glu Thr Gln His Asn Lys Leu Cys Ala Lys  
115 120 125

Leu Gly Asn Gly Leu Lys Phe Asn Asn Gly Asp Ile Cys Ile Lys Asp  
130 135 140

Ser Ile Asn Thr Leu Trp Thr Gly Ile Asn Pro Pro Pro Asn Cys Gln  
145 150 155 160

Ile Val Glu Asn Thr Asn Thr Asn Asp Gly Lys Leu Thr Leu Val Leu  
165 170 175

Val Lys Asn Gly Gly Leu Val Asn Gly Tyr Val Ser Leu Val Gly Val  
180 185 190

Ser Asp Thr Val Asn Gln Met Phe Thr Gln Lys Thr Ala Asn Ile Gln  
195 200 205

Leu Arg Leu Tyr Phe Asp Ser Ser Gly Asn Leu Leu Thr Asp Glu Ser  
210 215 220

Asp Leu Lys Ile Pro Leu Lys Asn Lys Ser Ser Thr Ala Thr Ser Glu  
225 230 235 240

Thr Val Ala Ser Ser Lys Ala Phe Met Pro Ser Thr Thr Ala Tyr Pro  
245 250 255

Phe Asn Thr Thr Thr Arg Asp Ser Glu Asn Tyr Ile His Gly Ile Cys  
260 265 270

Tyr Tyr Met Thr Ser Tyr Asp Arg Ser Leu Phe Pro Leu Asn Ile Ser  
275 280 285

Ile Met Leu Asn Ser Arg Met Ile Ser Ser Asn Val Ala Tyr Ala Ile  
290 295 300

Gln Phe Glu Trp Asn Leu Asn Ala Ser Glu Ser Pro Glu Lys Gln His  
305 310 315 320

Met Thr Leu Thr Thr Ser Pro Phe Phe Phe Ser Tyr Ile Ile Glu Asp  
325 330 335

Asp Asn

<210> 45

<211> 338

<212> PRT

<213> adenoviridae

<220>

<221> VARIANT

<222> (1)..(338)

<223> Serotype 35 fiber protein

<400> 45

Ser Cys Ser Cys Pro Ser Ala Pro Thr Ile Phe Met Leu Leu Gln Met  
1 5 10 15

Lys Arg Ala Arg Pro Ser Glu Asp Thr Phe Asn Pro Val Tyr Pro Tyr  
20 25 30

Glu Asp Glu Ser Thr Ser Gln His Pro Phe Ile Asn Pro Gly Phe Ile  
35 40 45

Ser Pro Asn Gly Phe Thr Gln Ser Pro Asp Gly Val Leu Thr Leu Lys  
50 55 60

Cys Leu Thr Pro Leu Thr Thr Thr Gly Gly Ser Leu Gln Leu Lys Val  
65 70 75 80

Gly	Gly	Gly	Leu	Thr	Val	Asp	Asp	Thr	Asp	Gly	Thr	Leu	Gln	Glu	Asn	
				85					90					95		
Ile	Arg	Ala	Thr	Ala	Pro	Ile	Thr	Lys	Asn	Asn	His	Ser	Val	Glu	Leu	
			100					105					110			
Ser	Ile	Gly	Asn	Gly	Leu	Glu	Thr	Gln	Asn	Asn	Lys	Leu	Cys	Ala	Lys	
		115					120					125				
Leu	Gly	Asn	Gly	Leu	Lys	Phe	Asn	Asn	Gly	Asp	Ile	Cys	Ile	Lys	Asp	
	130					135					140					
Ser	Ile	Asn	Thr	Leu	Trp	Thr	Gly	Ile	Asn	Pro	Pro	Pro	Asn	Cys	Gln	
145					150					155					160	
Ile	Val	Glu	Asn	Thr	Asn	Thr	Asn	Asp	Gly	Lys	Leu	Thr	Leu	Val	Leu	
				165					170					175		
Val	Lys	Asn	Gly	Gly	Leu	Val	Asn	Gly	Tyr	Val	Ser	Leu	Val	Gly	Val	
			180					185					190			
Ser	Asp	Thr	Val	Asn	Gln	Met	Phe	Thr	Gln	Lys	Thr	Ala	Asn	Ile	Gln	
		195					200					205				
Leu	Arg	Leu	Tyr	Phe	Asp	Ser	Ser	Gly	Asn	Leu	Leu	Thr	Glu	Glu	Ser	
	210					215					220					
Asp	Leu	Lys	Ile	Pro	Leu	Lys	Asn	Lys	Ser	Ser	Thr	Ala	Thr	Ser	Glu	
225					230					235					240	
Thr	Val	Ala	Ser	Ser	Lys	Ala	Phe	Met	Pro	Ser	Thr	Thr	Ala	Tyr	Pro	
				245					250					255		
Phe	Asn	Thr	Thr	Thr	Arg	Asp	Ser	Glu	Asn	Tyr	Ile	His	Gly	Ile	Cys	
			260					265					270			
Tyr	Tyr	Met	Thr	Ser	Tyr	Asp	Arg	Ser	Leu	Phe	Pro	Leu	Asn	Ile	Ser	
		275					280					285				

Ile Met Leu Asn Ser Arg Met Ile Ser Ser Asn Val Ala Tyr Ala Ile  
290 295 300

Gln Phe Glu Trp Asn Leu Asn Ala Ser Glu Ser Pro Glu Ser Asn Ile  
305 310 315 320

Met Thr Leu Thr Thr Ser Pro Phe Phe Phe Ser Tyr Ile Thr Glu Asp  
325 330 335

Asp Asn

<210> 46

<211> 392

<212> PRT

<213> adenoviridae

<220>

<221> VARIANT

<222> (1)..(392)

<223> Serotype 36 fiber protein

<400> 46

Ser Cys Ser Cys Pro Ser Ala Pro Thr Ile Phe Met Leu Leu Gln Met  
1 5 10 15

Lys Arg Ala Arg Pro Ser Glu Asp Thr Phe Asn Pro Val Tyr Pro Tyr  
20 25 30

Gly Tyr Ala Arg Asn Gln Asn Ile Pro Phe Leu Thr Pro Pro Phe Val  
35 40 45

Ser Ser Asp Gly Phe Lys Asn Phe Pro Pro Gly Val Leu Ser Leu Lys  
50 55 60

Leu Ala Asp Pro Ile Ala Ile Val Asn Gly Asp Val Ser Leu Lys Val  
65 70 75 80

Gly Gly Gly Leu Thr Val Glu Gln Asp Ser Gly Lys Leu Lys Val Asn  
85 90 95

Pro Lys Ile Pro Leu Gln Val Val Asn Asp Gln Leu Glu Leu Ala Thr  
100 105 110



Asn Pro Asp Asp Lys Ile Ser Ala Gly Lys Lys Asn Ile Val Ser Asn  
                           325                          330                          335

Val Tyr Leu Glu Gly Arg Val Tyr Gln Pro Val Ala Leu Thr Val Lys  
                           340                          345                          350

Phe Asn Ser Glu Asn Asp Cys Ala Tyr Ser Ile Thr Phe Asp Phe Val  
                           355                          360                          365

Trp Ser Lys Thr Tyr Glu Ser Pro Val Ala Phe Asp Ser Ser Ser Phe  
           370                          375                          380

Thr Phe Ser Tyr Ile Ala Gln Glu  
 385                          390

<210> 47

<211> 380

<212> PRT

<213> adenoviridae

<220>

<221> VARIANT

<222> (1)..(380)

<223> Serotype 37 fiber protein

<400> 47

Ser Cys Ser Cys Pro Ser Ala Pro Thr Ile Phe Met Leu Leu Gln Met  
   1                          5                          10                          15

Lys Arg Ala Arg Pro Ser Glu Asp Thr Phe Asn Pro Val Tyr Pro Tyr  
                           20                          25                          30

Gly Tyr Ala Arg Asn Gln Asn Ile Pro Phe Leu Thr Pro Pro Phe Val  
           35                          40                          45

Ser Ser Asp Gly Phe Lys Asn Phe Pro Pro Gly Val Leu Ser Leu Lys  
       50                          55                          60

Leu Ala Asp Pro Ile Thr Ile Thr Asn Gly Asp Val Ser Leu Lys Val  
   65                          70                          75                          80



Gly	Gly	Gly	Leu	Thr	Leu	Gln	Asp	Gly	Ser	Leu	Thr	Val	Asn	Pro	Lys	
				85					90					95		
Ala	Pro	Leu	Gln	Val	Asn	Thr	Asp	Lys	Lys	Leu	Glu	Leu	Ala	Tyr	Asp	
			100					105					110			
Asn	Pro	Phe	Glu	Ser	Ser	Ala	Asn	Lys	Leu	Ser	Leu	Lys	Val	Gly	His	
		115					120					125				
Gly	Leu	Lys	Val	Leu	Asp	Glu	Lys	Ser	Ala	Ala	Gly	Leu	Lys	Asp	Leu	
	130					135					140					
Ile	Gly	Lys	Leu	Val	Val	Leu	Thr	Gly	Lys	Gly	Ile	Gly	Thr	Glu	Asn	
145					150					155					160	
Leu	Glu	Asn	Thr	Asp	Gly	Ser	Ser	Arg	Gly	Ile	Gly	Ile	Asn	Val	Arg	
				165					170					175		
Ala	Arg	Glu	Gly	Leu	Thr	Phe	Asp	Asn	Asp	Gly	Tyr	Leu	Val	Ala	Trp	
			180					185					190			
Asn	Pro	Lys	Tyr	Asp	Leu	Arg	Thr	Leu	Trp	Thr	Thr	Pro	Asp	Thr	Ser	
		195					200					205				
Pro	Asn	Cys	Thr	Ile	Ala	Gln	Asp	Lys	Asp	Ser	Lys	Leu	Thr	Leu	Val	
	210					215					220					
Leu	Thr	Lys	Cys	Gly	Ser	Gln	Ile	Leu	Ala	Asn	Val	Ser	Leu	Ile	Val	
225					230					235					240	
Val	Ala	Gly	Lys	Tyr	His	Ile	Ile	Asn	Asn	Lys	Thr	Asn	Pro	Lys	Ile	
				245					250					255		
Lys	Ser	Phe	Thr	Ile	Lys	Leu	Leu	Phe	Asn	Lys	Asn	Gly	Val	Leu	Leu	
			260					265					270			
Asp	Asn	Ser	Asn	Leu	Gly	Lys	Ala	Tyr	Trp	Asn	Phe	Arg	Ser	Gly	Asn	
		275					280					285				

Ser Asn Val Ser Thr Ala Tyr Glu Lys Ala Ile Gly Phe Met Pro Asn  
290 295 300

Leu Val Ala Val Ser Lys Pro Ser Asn Ser Lys Lys Tyr Ala Arg Asp  
305 310 315 320

Ile Val Tyr Gly Asn Ile Tyr Leu Gly Gly Lys Pro Asp Gln Pro Gly  
325 330 335

Val Ile Lys Thr Thr Phe Asn Gln Glu Thr Gly Cys Glu Tyr Ser Ile  
340 345 350

Thr Phe Asn Phe Ser Trp Ser Lys Thr Tyr Glu Asn Val Glu Phe Glu  
355 360 365

Thr Thr Ser Phe Thr Phe Ser Tyr Ile Ala Gln Glu  
370 375 380

<210> 48

<211> 391

<212> PRT

<213> adenoviridae

<220>

<221> VARIANT

<222> (1)..(391)

<223> Serotype 39 fiber protein

<220>

<221> MISC\_FEATURE

<222> (43)

<223> 'Xaa' at position 43 indicates an unidentified amino acid  
due to unidentified nucleotide(s)

<220>

<221> MISC\_FEATURE

<222> (49)

<223> 'Xaa' at position 49 indicates an unidentified amino acid  
due to unidentified nucleotide(s)

<220>

<221> MISC\_FEATURE

<222> (97)

<223> 'Xaa' at position 97 indicates an unidentified amino acid  
due to unidentified nucleotide(s)

<220>

<221> MISC\_FEATURE

<222> (192)

<223> 'Xaa' at position 192 indicates an unidentified amino acid due to unidentified nucleotide(s)

<400> 48

Ser	Cys	Ser	Cys	Pro	Ser	Ala	Pro	Thr	Ile	Phe	Met	Leu	Leu	Gln	Met
1				5				10					15		

Lys	Arg	Ala	Arg	Pro	Ser	Glu	Asp	Thr	Phe	Asn	Pro	Val	Tyr	Pro	Tyr
		20						25					30		

Gly	Tyr	Ala	Arg	Asn	Gln	Asn	Ile	Pro	Phe	Xaa	Thr	Pro	Pro	Phe	Val
		35					40					45			

Xaa	Ser	Asp	Gly	Phe	Gln	Asn	Phe	Pro	Pro	Gly	Val	Leu	Ser	Leu	Lys
50						55					60				

Leu	Ala	Asp	Pro	Ile	Thr	Ile	Ala	Asn	Gly	Asn	Val	Ser	Leu	Lys	Val
65					70					75					80

Gly	Gly	Gly	Leu	Thr	Leu	Glu	Gln	Asp	Ser	Gly	Lys	Leu	Ile	Val	Asn
				85					90					95	

Xaa	Lys	Ala	Pro	Leu	Gln	Val	Ala	Asn	Asp	Lys	Leu	Glu	Leu	Ser	Tyr
			100					105					110		

Ala	Asp	Pro	Phe	Glu	Thr	Ser	Ala	Asn	Lys	Leu	Ser	Leu	Lys	Val	Gly
		115					120					125			

His	Gly	Leu	Lys	Val	Leu	Asp	Glu	Lys	Asn	Ala	Gly	Gly	Leu	Lys	Asp
130						135					140				

Leu	Ile	Gly	Thr	Leu	Val	Val	Leu	Thr	Gly	Lys	Gly	Ile	Gly	Val	Glu
145					150					155					160

Glu	Leu	Lys	Asn	Ala	Asp	Asn	Thr	Asn	Arg	Gly	Val	Gly	Ile	Asn	Val
				165					170					175	

Arg	Leu	Gly	Lys	Asp	Gly	Gly	Leu	Ser	Phe	Asp	Lys	Lys	Gly	Asp	Xaa
			180					185					190		

Val	Ala	Trp	Asn	Lys	His	Asp	Asp	Arg	Arg	Thr	Leu	Trp	Thr	Thr	Pro
		195					200					205			
Asp	Pro	Ser	Pro	Asn	Cys	Thr	Ile	Asp	Glu	Glu	Arg	Asp	Ser	Lys	Leu
	210					215					220				
Thr	Leu	Val	Leu	Thr	Lys	Cys	Gly	Ser	Gln	Ile	Leu	Ala	Asn	Val	Ser
225					230					235					240
Leu	Leu	Val	Val	Lys	Gly	Lys	Phe	Ser	Asn	Ile	Asn	Asn	Asn	Thr	Asn
				245					250					255	
Pro	Thr	Asp	Lys	Lys	Ile	Thr	Val	Lys	Leu	Leu	Phe	Asn	Glu	Lys	Gly
			260					265					270		
Val	Leu	Met	Asp	Ser	Ser	Ser	Leu	Lys	Lys	Glu	Tyr	Trp	Asn	Tyr	Arg
		275					280					285			
Asn	Asp	Asn	Ser	Thr	Val	Ser	Gln	Ala	Tyr	Asp	Asn	Ala	Val	Pro	Phe
	290					295					300				
Met	Pro	Asn	Ile	Lys	Ala	Tyr	Pro	Lys	Pro	Thr	Thr	Asp	Thr	Ser	Ala
305					310					315					320
Lys	Pro	Glu	Asp	Lys	Lys	Ser	Ala	Ala	Lys	Arg	Tyr	Ile	Val	Ser	Asn
				325					330					335	
Val	Tyr	Ile	Gly	Gly	Leu	Pro	Asp	Lys	Thr	Val	Val	Ile	Thr	Ile	Lys
			340					345					350		
Leu	Asn	Ala	Glu	Thr	Glu	Ser	Ala	Tyr	Ser	Met	Thr	Phe	Glu	Phe	Thr
		355					360					365			
Trp	Ala	Lys	Thr	Phe	Glu	Asn	Leu	Gln	Phe	Asp	Ser	Ser	Ser	Phe	Thr
	370					375					380				
Phe	Ser	Tyr	Ile	Ala	Gln	Glu									
385					390										

<210> 49  
 <211> 339  
 <212> PRT  
 <213> adenoviridae

<220>  
 <221> VARIANT  
 <222> (1)..(339)  
 <223> Serotype 39 fiber protein

<400> 49

Ile Arg Ile Ser Pro Ser Ser Leu Pro Pro Leu Ser Pro Pro Met Asp  
 1 5 10 15

Ser Lys Thr Ser Pro Leu Gly Cys Tyr His Ser Asn Trp Leu Thr Gln  
 20 25 30

Ser Pro Ser Pro Met Gly Met Ser His Ser Arg Trp Glu Gly Gly Ser  
 35 40 45

Pro Trp Gln Glu Gly Thr Gly Asp Leu Lys Val Asn Ala Lys Ser Pro  
 50 55 60

Leu Gln Val Ala Thr Asn Lys Gln Leu Glu Ile Ala Leu Ala Lys Pro  
 65 70 75 80

Phe Glu Glu Lys Asp Gly Lys Leu Ala Leu Lys Ile Gly His Gly Leu  
 85 90 95

Ala Val Val Asp Glu Asn His Thr His Leu Gln Ser Leu Ile Gly Thr  
 100 105 110

Leu Val Ile Leu Thr Gly Lys Gly Ile Gly Thr Gly Arg Ala Glu Ser  
 115 120 125

Gly Gly Thr Ile Asp Val Arg Leu Gly Ser Gly Gly Gly Leu Ser Phe  
 130 135 140

Asp Lys Asp Gly Asn Leu Val Ala Trp Asn Lys Asp Asp Asp Arg Arg  
 145 150 155 160

Thr Leu Trp Thr Thr Pro Asp Pro Ser Pro Asn Cys Lys Ile Asp Gln  
 165 170 175  
 Asp Lys Asp Ser Lys Leu Thr Phe Val Leu Thr Lys Cys Gly Ser Gln  
 180 185 190  
 Ile Leu Ala Asn Met Ser Leu Leu Val Val Lys Gly Lys Phe Ser Met  
 195 200 205  
 Ile Asn Asn Lys Val Asn Gly Thr Asp Asp Tyr Lys Lys Phe Thr Ile  
 210 215 220  
 Lys Leu Leu Phe Asp Glu Lys Gly Val Leu Leu Lys Asp Ser Ser Leu  
 225 230 235 240  
 Asp Lys Glu Tyr Trp Asn Tyr Arg Ser Asn Asn Asn Asn Val Gly Ser  
 245 250 255  
 Ala Tyr Glu Glu Ala Val Gly Phe Met Pro Ser Thr Thr Ala Tyr Pro  
 260 265 270  
 Lys Pro Pro Thr Pro Pro Thr Asn Pro Thr Thr Pro Leu Glu Lys Ser  
 275 280 285  
 Gln Ala Lys Asn Lys Tyr Val Ser Asn Val Tyr Leu Gly Gly Gln Ala  
 290 295 300  
 Gly Asn Pro Val Ala Thr Thr Val Ser Phe Asn Lys Glu Thr Gly Cys  
 305 310 315 320  
 Thr Tyr Ser Ile Thr Phe Asp Phe Ala Trp Asn Lys Thr Tyr Glu Asn  
 325 330 335

Val Gln Cys

<210> 50  
 <211> 380  
 <212> PRT  
 <213> adenoviridae

<220>

<221> VARIANT  
 <222> (1)..(380)  
 <223> Serotype 42 fiber protein  
  
 <220>  
 <221> MISC\_FEATURE  
 <222> (237)  
 <223> 'Xaa' at position 237 indicates an unidentified amino acid  
 due to unidentified nucleotide(s)  
  
 <400> 50

Ser Cys Ser Cys Pro Ser Ala Pro Thr Ile Phe Met Leu Leu Gln Met  
 1 5 10 15

Lys Arg Ala Arg Pro Ser Glu Asp Thr Phe Asn Pro Val Tyr Pro Tyr  
 20 25 30

Gly Tyr Ala Arg Asn Gln Asn Ile Pro Phe Leu Thr Pro Pro Phe Val  
 35 40 45

Ser Ser Asp Gly Phe Lys Asn Phe Pro Pro Gly Val Leu Ser Leu Lys  
 50 55 60

Leu Ala Asn Pro Ile Ala Ile Thr Asn Gly Asp Val Ser Leu Lys Val  
 65 70 75 80

Gly Gly Gly Leu Thr Leu Gln Asp Gly Thr Gly Lys Leu Thr Ile Asp  
 85 90 95

Thr Lys Thr Pro Leu Gln Val Ala Asn Asn Lys Leu Glu Leu Ala Phe  
 100 105 110

Asp Ala Pro Leu Tyr Glu Lys Asn Gly Lys Leu Ala Leu Lys Thr Gly  
 115 120 125

His Gly Leu Ala Val Leu Thr Lys Asp Ile Gly Ile Pro Glu Leu Ile  
 130 135 140

Gly Ser Leu Val Ile Leu Thr Gly Lys Gly Ile Gly Thr Gly Thr Val  
 145 150 155 160

Ala	Gly	Gly	Gly	Thr	Ile	Asp	Val	Arg	Leu	Gly	Asp	Asp	Gly	Gly	Leu	
				165					170					175		
Ser	Phe	Asp	Lys	Lys	Gly	Asp	Leu	Val	Ala	Trp	Asn	Lys	Lys	Asn	Asp	
			180					185					190			
Arg	Arg	Thr	Leu	Trp	Thr	Thr	Pro	Asp	Pro	Ser	Pro	Asn	Cys	Arg	Val	
		195					200					205				
Ser	Glu	Asp	Lys	Asp	Ser	Lys	Leu	Thr	Leu	Ile	Leu	Thr	Lys	Cys	Gly	
	210					215					220					
Ser	Gln	Ile	Leu	Ala	Ser	Phe	Ser	Leu	Leu	Val	Val	Xaa	Gly	Thr	Tyr	
225					230					235					240	
Thr	Thr	Val	Asp	Lys	Asn	Thr	Thr	Asn	Lys	Gln	Phe	Ser	Ile	Lys	Leu	
				245					250					255		
Leu	Phe	Asp	Ala	Asn	Gly	Lys	Leu	Lys	Ser	Glu	Ser	Asn	Leu	Ser	Gly	
			260					265					270			
Tyr	Trp	Asn	Tyr	Arg	Ser	Asp	Asn	Ser	Val	Val	Ser	Thr	Pro	Tyr	Asp	
		275					280					285				
Asn	Ala	Val	Pro	Phe	Met	Pro	Asn	Thr	Thr	Ala	Tyr	Pro	Lys	Ile	Ile	
	290					295					300					
Asn	Ser	Thr	Thr	Asp	Pro	Glu	Asn	Lys	Lys	Ser	Ser	Ala	Lys	Lys	Thr	
305					310					315					320	
Ile	Val	Gly	Asn	Val	Tyr	Leu	Glu	Gly	Asn	Ala	Gly	Gln	Pro	Val	Ala	
				325					330					335		
Val	Ala	Ile	Ser	Phe	Asn	Lys	Glu	Thr	Thr	Ala	Asp	Tyr	Ser	Ile	Thr	
			340					345					350			
Phe	Asp	Phe	Ala	Trp	Ser	Lys	Ala	Tyr	Glu	Thr	Pro	Val	Pro	Phe	Asp	
		355					360					365				



Thr Ser Ser Met Thr Phe Ser Tyr Ile Ala Gln Glu  
 370 375 380

<210> 51  
 <211> 328  
 <212> PRT  
 <213> adenoviridae

<220>  
 <221> VARIANT  
 <222> (1)..(328)  
 <223> Serotype 43 fiber protein

<220>  
 <221> MISC\_FEATURE  
 <222> (4)  
 <223> 'Xaa' at position 4 indicates an unidentified amino acid  
 due to unidentified nucleotide(s)

<220>  
 <221> MISC\_FEATURE  
 <222> (232)  
 <223> 'Xaa' at positions 232 and 233 indicate an unidentified  
 amino acid due to unidentified nucleotide(s)

<400> 51

Asn Ile Pro Xaa Leu Thr Pro Pro Phe Val Ser Ser Asp Gly Phe Lys  
 1 5 10 15

Asn Phe Pro Pro Gly Val Leu Ser Leu Lys Leu Ala Asp Pro Ile Thr  
 20 25 30

Ile Thr Asn Gly Asp Val Ser Leu Lys Val Gly Gly Gly Leu Thr Val  
 35 40 45

Glu Lys Glu Ser Gly Asn Leu Thr Val Asn Pro Lys Ala Pro Leu Gln  
 50 55 60

Val Ala Lys Gly Gln Leu Glu Leu Ala Tyr Asp Ser Pro Phe Asp Val  
 65 70 75 80

Lys Asn Asn Met Leu Thr Leu Lys Ala Gly His Gly Leu Ala Val Val  
 85 90 95

Thr	Lys	Asp	Asn	Thr	Asp	Leu	Gln	Pro	Leu	Met	Gly	Thr	Leu	Val	Val	
			100					105					110			
Leu	Thr	Gly	Lys	Gly	Ile	Gly	Thr	Gly	Thr	Ser	Ala	His	Gly	Gly	Thr	
		115					120					125				
Ile	Asp	Val	Arg	Ile	Gly	Lys	Asn	Gly	Ser	Leu	Ala	Phe	Asp	Lys	Asp	
	130					135					140					
Gly	Asp	Leu	Val	Ala	Trp	Asp	Lys	Glu	Asn	Asp	Arg	Arg	Thr	Leu	Trp	
145					150					155					160	
Thr	Thr	Pro	Asp	Thr	Ser	Pro	Asn	Cys	Lys	Met	Ser	Glu	Ala	Lys	Asp	
				165					170					175		
Ser	Lys	Leu	Thr	Leu	Ile	Leu	Thr	Lys	Cys	Gly	Ser	Gln	Ile	Leu	Gly	
			180					185					190			
Ser	Val	Ser	Leu	Leu	Ala	Val	Lys	Gly	Glu	Tyr	Gln	Asn	Met	Thr	Ala	
		195					200					205				
Asn	Thr	Lys	Lys	Asn	Val	Lys	Ile	Thr	Leu	Leu	Phe	Asp	Ala	Asn	Gly	
	210					215					220					
Val	Leu	Leu	Ala	Gly	Ser	Ser	Xaa	Xaa	Lys	Glu	Tyr	Trp	Asn	Phe	Arg	
225					230					235					240	
Ser	Asn	Asp	Ser	Thr	Val	Ser	Gly	Asn	Tyr	Glu	Asn	Ala	Val	Gln	Phe	
				245				250						255		
Met	Pro	Asn	Ile	Thr	Ala	Tyr	Lys	Pro	Thr	Asn	Ser	Lys	Ser	Tyr	Ala	
			260					265					270			
Arg	Ser	Val	Ile	Phe	Gly	Asn	Val	Tyr	Ile	Asp	Ala	Lys	Pro	Tyr	Asn	
		275					280					285				
Pro	Val	Val	Ile	Lys	Ile	Ser	Phe	Asn	Gln	Glu	Thr	Gln	Asn	Asn	Cys	
	290					295					300					

Val Tyr Ser Ile Ser Phe Asp Tyr Thr Leu Ser Lys Asp Tyr Pro Asn  
 305 310 315 320

Met Gln Phe Asp Val Thr Leu Ser  
 325

<210> 52  
 <211> 341  
 <212> PRT  
 <213> adenoviridae

<220>  
 <221> VARIANT  
 <222> (1)..(341)  
 <223> Serotype 44 fiber protein

<400> 52

Asn Ile Pro Phe Leu Thr Pro Pro Phe Val Ser Ser Asp Gly Phe Gln  
 1 5 10 15

Asn Phe Pro Pro Gly Val Leu Ser Leu Lys Leu Ala Asp Pro Ile Thr  
 20 25 30

Ile Thr Asn Gly Asn Val Ser Leu Lys Val Gly Gly Gly Leu Thr Leu  
 35 40 45

Gln Glu Gly Thr Gly Asp Leu Lys Val Asn Ala Lys Ser Pro Leu Gln  
 50 55 60

Val Ala Thr Asn Lys Gln Leu Glu Ile Ala Leu Ala Lys Pro Phe Glu  
 65 70 75 80

Glu Lys Asp Gly Lys Leu Ala Leu Lys Ile Gly His Gly Leu Ala Val  
 85 90 95

Val Asp Glu Asn His Thr His Leu Gln Ser Leu Ile Gly Thr Leu Val  
 100 105 110

Ile Leu Thr Gly Lys Gly Ile Gly Thr Gly Ser Ala Glu Ser Gly Gly  
 115 120 125

Thr	Ile	Asp	Val	Arg	Leu	Gly	Ser	Gly	Gly	Gly	Leu	Ser	Phe	Asp	Lys
	130					135					140				
Asp	Gly	Asn	Leu	Val	Ala	Trp	Asn	Lys	Asp	Asp	Asp	Arg	Arg	Thr	Leu
145					150					155					160
Trp	Thr	Thr	Pro	Asp	Pro	Ser	Pro	Asn	Cys	Lys	Ile	Asp	Gln	Asp	Lys
				165					170					175	
Asp	Ser	Lys	Leu	Thr	Phe	Val	Leu	Thr	Lys	Cys	Gly	Ser	Gln	Ile	Leu
			180					185					190		
Ala	Asn	Met	Ser	Leu	Leu	Val	Val	Lys	Gly	Lys	Phe	Ser	Met	Ile	Asn
		195					200					205			
Asn	Lys	Val	Asn	Gly	Thr	Asp	Asp	Tyr	Lys	Lys	Phe	Thr	Ile	Lys	Leu
	210					215					220				
Leu	Phe	Asp	Glu	Lys	Gly	Val	Leu	Leu	Lys	Asp	Ser	Ser	Leu	Asp	Lys
225					230					235					240
Glu	Tyr	Trp	Asn	Tyr	Arg	Ser	Asn	Asn	Asn	Asn	Val	Gly	Ser	Ala	Tyr
				245					250					255	
Glu	Glu	Ala	Val	Gly	Phe	Met	Pro	Ser	Thr	Thr	Ala	Tyr	Pro	Lys	Pro
			260					265					270		
Pro	Thr	Pro	Pro	Thr	Asn	Pro	Thr	Thr	Pro	Leu	Glu	Lys	Ser	Gln	Ala
		275					280					285			
Lys	Asn	Lys	Tyr	Val	Ser	Asn	Val	Tyr	Leu	Gly	Gly	Gln	Ala	Gly	Asn
	290					295					300				
Pro	Val	Ala	Thr	Thr	Val	Ser	Phe	Asn	Lys	Glu	Thr	Gly	Cys	Thr	Tyr
305					310					315					320
Ser	Ile	Thr	Phe	Asp	Phe	Ala	Trp	Asn	Lys	Thr	Tyr	Glu	Asn	Val	Gln
				325					330					335	

Phe Asp Ser Ser Phe  
340

<210> 53  
<211> 345  
<212> PRT  
<213> adenoviridae

<220>  
<221> VARIANT  
<222> (1)..(345)  
<223> Serotype 45 fiber protein

<400> 53

Asn Ile Pro Phe Leu Thr Pro Pro Phe Val Ser Ser Asp Gly Phe Gln  
1 5 10 15

Asn Phe Pro Pro Gly Val Leu Ser Leu Lys Leu Ala Asp Pro Ile Ala  
20 25 30

Ile Thr Asn Gly Asp Val Ser Leu Lys Val Gly Gly Gly Leu Thr Val  
35 40 45

Glu Lys Asp Ser Gly Asn Leu Lys Val Asn Pro Lys Ala Pro Leu Gln  
50 55 60

Val Thr Thr Asp Lys Gln Leu Glu Ile Ala Leu Ala Tyr Pro Phe Glu  
65 70 75 80

Val Ser Asn Gly Lys Leu Gly Ile Lys Ala Gly His Gly Leu Lys Val  
85 90 95

Ile Asp Lys Ile Ala Gly Leu Glu Gly Leu Ala Gly Thr Leu Val Val  
100 105 110

Leu Thr Gly Lys Gly Ile Gly Thr Glu Asn Leu Glu Asn Ser Asp Gly  
115 120 125

Ser Ser Arg Gly Val Gly Ile Asn Val Arg Leu Ala Lys Asp Gly Val  
130 135 140

Leu	Ala	Phe	Asp	Lys	Lys	Gly	Asp	Leu	Val	Ala	Trp	Asn	Lys	His	Asp
145					150					155					160
Asp	Arg	Arg	Thr	Leu	Trp	Thr	Thr	Pro	Asp	Pro	Ser	Pro	Asn	Cys	Thr
				165					170					175	
Ile	Asp	Gln	Glu	Arg	Asp	Ser	Lys	Leu	Thr	Leu	Val	Leu	Thr	Lys	Cys
			180					185					190		
Gly	Ser	Gln	Ile	Leu	Ala	Asn	Val	Ser	Leu	Leu	Val	Val	Lys	Gly	Lys
		195					200					205			
Phe	Ser	Asn	Ile	Asn	Asn	Asn	Ala	Asn	Pro	Thr	Asp	Lys	Lys	Ile	Thr
	210					215					220				
Val	Lys	Leu	Leu	Phe	Asn	Glu	Lys	Gly	Val	Leu	Met	Asp	Ser	Ser	Thr
225					230					235					240
Leu	Lys	Lys	Glu	Tyr	Trp	Asn	Tyr	Arg	Asn	Asp	Asn	Ser	Thr	Val	Ser
				245					250					255	
Gln	Ala	Tyr	Asp	Asn	Ala	Val	Pro	Phe	Met	Pro	Asn	Ile	Lys	Ala	Tyr
			260					265					270		
Pro	Lys	Pro	Ser	Thr	Asp	Thr	Ser	Ala	Lys	Pro	Glu	Asp	Lys	Lys	Ser
		275					280					285			
Ala	Ala	Lys	Arg	Tyr	Ile	Val	Ser	Asn	Val	Tyr	Ile	Gly	Gly	Leu	Pro
	290					295					300				
Asp	Lys	Thr	Val	Val	Ile	Thr	Ile	Lys	Phe	Asn	Ala	Glu	Thr	Glu	Cys
305					310					315					320
Ala	Tyr	Ser	Ile	Thr	Phe	Glu	Phe	Thr	Trp	Ala	Lys	Thr	Phe	Glu	Asp
				325					330					335	
Val	Gln	Cys	Asp	Ser	Ser	Ser	Phe	Thr							
			340					345							
<210>	54														
<211>	340														

<212> PRT  
 <213> adenoviridae  
 <220>  
 <221> VARIANT  
 <222> (1)..(340)  
 <223> Serotype 46 fiber protein  
 <400> 54

Asn Ile Pro Phe Leu Thr Pro Pro Phe Val Ser Ser Asp Gly Phe Lys  
 1 5 10 15

Asn Phe Pro Pro Gly Val Leu Ser Leu Lys Leu Ala Asp Pro Ile Ala  
 20 25 30

Ile Val Asn Gly Asp Val Ser Leu Lys Val Gly Gly Gly Leu Thr Leu  
 35 40 45

Gln Glu Gly Asn Leu Thr Val Asp Ala Lys Ala Pro Leu Gln Val Ala  
 50 55 60

Asn Asp Asn Lys Leu Glu Leu Ser Tyr Ala Asp Pro Phe Glu Val Lys  
 65 70 75 80

Asp Thr Lys Leu Gln Leu Lys Val Gly His Gly Leu Lys Val Ile Asp  
 85 90 95

Glu Lys Thr Ser Ser Gly Leu Gln Ser Leu Ile Gly Asn Leu Val Val  
 100 105 110

Leu Thr Gly Lys Gly Ile Gly Thr Gln Glu Leu Lys Asp Lys Asp Asp  
 115 120 125

Glu Thr Lys Asn Ile Gly Val Gly Ile Asn Val Arg Ile Gly Lys Asn  
 130 135 140

Glu Ser Leu Ala Phe Asp Lys Asp Gly Asn Leu Val Ala Trp Asp Asn  
 145 150 155 160

Glu Asn Asp Arg Arg Thr Leu Trp Thr Thr Pro Asp Thr Ser Ser Lys  
 165 170 175

Phe	Val	Lys	Ile	Ser	Thr	Glu	Lys	Asp	Ser	Lys	Leu	Thr	Leu	Val	Leu		
			180					185					190				
Thr	Lys	Cys	Gly	Ser	Gln	Ile	Leu	Ala	Ser	Val	Ser	Leu	Leu	Ala	Val		
		195					200					205					
Ala	Gly	Ser	Tyr	Leu	Asn	Met	Thr	Ala	Ser	Thr	Gln	Lys	Ser	Ile	Lys		
	210					215					220						
Val	Ser	Leu	Met	Phe	Asp	Ser	Lys	Gly	Leu	Leu	Met	Thr	Thr	Ser	Ser		
225					230					235					240		
Ile	Asp	Lys	Gly	Tyr	Trp	Asn	Tyr	Arg	Asn	Lys	Asn	Ser	Val	Val	Gly		
				245					250					255			
Thr	Ala	Tyr	Glu	Asn	Ala	Ile	Pro	Phe	Met	Pro	Asn	Leu	Val	Ala	Tyr		
			260					265					270				
Pro	Arg	Pro	Asn	Thr	Pro	Asp	Ser	Lys	Ile	Tyr	Ala	Arg	Ser	Lys	Ile		
		275					280					285					
Val	Gly	Asn	Val	Tyr	Leu	Ala	Gly	Leu	Ala	Tyr	Gln	Pro	Ile	Val	Ile		
	290					295					300						
Thr	Val	Ser	Phe	Asn	Gln	Glu	Lys	Asp	Ala	Ser	Cys	Ala	Tyr	Ser	Ile		
305					310					315					320		
Thr	Phe	Glu	Phe	Ala	Trp	Asn	Lys	Asp	Tyr	Val	Gly	Gln	Phe	Asp	Thr		
				325					330					335			
Thr	Ser	Phe	Thr														
			340														

<210> 55  
 <211> 389  
 <212> PRT  
 <213> adenoviridae  
  
 <220>  
 <221> VARIANT



<222> (1)..(389)

<223> Serotype 47 fiber protein

<400> 55

Ser Cys Pro Ser Ala Pro Thr Ile Phe Met Leu Leu Gln Met Lys Arg  
1 5 10 15

Ala Arg Pro Ser Glu Asp Thr Phe Asn Pro Val Tyr Pro Tyr Gly Tyr  
20 25 30

Ala Arg Asn Gln Asn Ile Pro Phe Leu Thr Pro Pro Phe Val Ser Ser  
35 40 45

Asp Gly Phe Lys Asn Phe Pro Pro Gly Val Leu Ser Leu Lys Leu Ala  
50 55 60

Asp Pro Ile Thr Ile Thr Asn Gly Asp Val Ser Leu Lys Val Gly Gly  
65 70 75 80

Gly Leu Thr Leu Gln Glu Gly Thr Gly Asn Leu Thr Val Asn Ala Lys  
85 90 95

Ala Pro Leu Gln Val Ala Asp Asp Lys Lys Leu Glu Leu Ser Tyr Asp  
100 105 110

Asn Pro Phe Glu Val Ser Ala Asn Lys Leu Ser Leu Lys Val Gly His  
115 120 125

Gly Leu Lys Val Leu Asp Glu Lys Asn Ser Gly Gly Leu Gln Glu Leu  
130 135 140

Ile Gly Lys Leu Val Ile Leu Thr Gly Lys Gly Ile Gly Val Glu Glu  
145 150 155 160

Leu Lys Asn Ala Asp Asn Thr Asn Arg Gly Val Gly Ile Asn Val Arg  
165 170 175

Leu Gly Lys Asp Gly Gly Leu Ser Phe Asp Lys Lys Gly Glu Leu Val  
180 185 190

Ala Trp Asn Lys His Asn Asp Thr Arg Thr Leu Trp Thr Thr Pro Asp  
195 200 205

Pro Ser Pro Asn Cys Lys Ile Glu Gln Asp Lys Asp Ser Lys Leu Thr  
210 215 220

Leu Val Leu Thr Lys Cys Gly Ser Gln Ile Leu Ala Thr Met Ala Phe  
225 230 235 240

Gln Val Val Lys Gly Thr Tyr Glu Asn Ile Ser Lys Asn Thr Ala Lys  
245 250 255

Lys Ser Phe Ser Ile Lys Leu Leu Phe Asp Asp Asn Gly Lys Leu Leu  
260 265 270

Glu Gly Ser Ser Leu Asp Lys Asp Tyr Trp Asn Phe Arg Asn Asp Asp  
275 280 285

Ser Ile Met Pro Asn Gln Tyr Asp Asn Ala Val Pro Phe Met Pro Asn  
290 295 300

Leu Lys Ala Tyr Pro Asn Pro Lys Thr Ser Thr Val Leu Pro Ser Thr  
305 310 315 320

Asp Lys Lys Ser Asn Gly Lys Asn Thr Ile Val Ser Asn Leu Tyr Leu  
325 330 335

Glu Gly Lys Ala Tyr Gln Pro Val Ala Val Thr Ile Thr Phe Asn Lys  
340 345 350

Glu Thr Gly Cys Thr Tyr Ser Ile Thr Phe Glu Phe Gly Trp Ala Lys  
355 360 365

Thr Tyr Asp Val Pro Ile Pro Phe Asp Ser Ser Ser Phe Thr Phe Ser  
370 375 380

Tyr Ile Ala Gln Glu  
385

<210> 56  
<211> 343

<212> PRT  
 <213> adenoviridae  
  
 <220>  
 <221> VARIANT  
 <222> (1)..(343)  
 <223> Serotype 48 fiber protein  
  
 <400> 56  
  
 Ser Asp Ile Pro Phe Leu Thr Pro Pro Phe Val Ser Ser Asp Gly Phe  
 1 5 10 15  
  
 Gln Asn Phe Pro Pro Gly Val Leu Ser Leu Lys Leu Ala Asp Pro Ile  
 20 25 30  
  
 Thr Ile Thr Asn Gly Asn Val Ser Leu Lys Val Gly Gly Gly Leu Thr  
 35 40 45  
  
 Leu Gln Glu Gly Thr Gly Asp Leu Lys Val Asn Ala Lys Ser Pro Leu  
 50 55 60  
  
 Gln Val Ala Thr Asn Lys Gln Leu Glu Ile Ala Leu Ala Lys Pro Phe  
 65 70 75 80  
  
 Glu Glu Lys Asp Gly Lys Leu Ala Leu Lys Ile Gly His Glu Leu Ala  
 85 90 95  
  
 Val Val Asp Glu Asn Leu Thr His Leu Gln Ser Leu Ile Gly Thr Leu  
 100 105 110  
  
 Val Ile Leu Thr Gly Lys Gly Ile Gly Thr Gly Arg Ala Glu Ser Gly  
 115 120 125  
  
 Gly Thr Ile Asp Val Arg Leu Gly Ser Gly Gly Gly Leu Ser Phe Asp  
 130 135 140  
  
 Lys Asp Gly Asn Leu Val Ala Trp Asn Lys Asp Asp Asp Arg Arg Thr  
 145 150 155 160  
  
 Leu Trp Thr Thr Pro Asp Pro Ser Pro Asn Cys Lys Ile Asp Gln Asp  
 165 170 175

Lys Asp Ser Lys Leu Thr Phe Val Leu Thr Lys Cys Gly Ser Gln Ile  
 180 185 190  
 Leu Ala Asn Met Ser Leu Leu Val Val Lys Gly Lys Phe Ser Met Ile  
 195 200 205  
 Asn Asn Lys Val Asn Gly Thr Asp Asp Tyr Lys Lys Phe Thr Ile Lys  
 210 215 220  
 Leu Leu Phe Asp Glu Lys Gly Val Leu Leu Lys Asp Ser Ser Leu Asp  
 225 230 235 240  
 Lys Glu Tyr Trp Asn Tyr Arg Ser Asn Asn Asn Asn Val Gly Ser Ala  
 245 250 255  
 Tyr Glu Glu Ala Val Gly Phe Met Pro Ser Thr Thr Ala Tyr Pro Lys  
 260 265 270  
 Pro Pro Thr Pro Pro Thr Asn Pro Thr Thr Pro Leu Glu Lys Ser Gln  
 275 280 285  
 Ala Lys Asn Lys Tyr Val Ser Asn Val Tyr Leu Gly Gly Gln Ala Gly  
 290 295 300  
 Asn Pro Val Ala Thr Thr Val Ser Phe Asn Lys Glu Thr Gly Cys Thr  
 305 310 315 320  
 Tyr Ser Ile Thr Phe Asp Phe Ala Trp Asn Lys Thr Tyr Lys Met Ala  
 325 330 335  
 Phe Ile Pro Arg Phe Asn Phe  
 340

<210> 57  
 <211> 394  
 <212> PRT  
 <213> adenoviridae  
 <220>  
 <221> VARIANT  
 <222> (1)..(394)  
 <223> Serotype 49 fiber protein

<220>  
 <221> MISC\_FEATURE  
 <222> (262)  
 <223> 'Xaa' at position 262 indicates an unidentified amino acid  
 due to unidentified nucleotide(s)

<400> 57

Ser Cys Ser Cys Pro Ser Ala Pro Thr Ile Phe Met Leu Leu Gln Met  
 1 5 10 15

Lys Arg Ala Arg Pro Ser Glu Asp Thr Phe Asn Pro Val Tyr Pro Tyr  
 20 25 30

Gly Tyr Ala Arg Asn Gln Asn Ile Pro Phe Leu Thr Pro Pro Phe Val  
 35 40 45

Ser Ser Asp Gly Phe Gln Asn Phe Pro Pro Gly Val Leu Ser Leu Lys  
 50 55 60

Leu Ala Asp Pro Ile Ala Ile Thr Asn Gly Asn Val Ser Leu Lys Val  
 65 70 75 80

Gly Gly Gly Leu Thr Val Glu Gln Asp Ser Gly Asn Leu Lys Val Asn  
 85 90 95

Pro Lys Ala Pro Leu Gln Val Ala Thr Asp Asn Gln Leu Glu Ile Ser  
 100 105 110

Leu Ala Asp Pro Phe Glu Val Lys Asn Lys Lys Leu Ser Leu Lys Val  
 115 120 125

Gly His Gly Leu Lys Val Ile Asp Glu Asn Ile Ser Thr Leu Gln Gly  
 130 135 140

Leu Leu Gly Asn Leu Val Val Leu Thr Gly Met Gly Ile Gly Thr Glu  
 145 150 155 160

Glu Leu Lys Lys Asp Asp Lys Ile Val Gly Ser Ala Val Asn Val Arg  
 165 170 175

Leu	Gly	Gln	Asp	Gly	Gly	Leu	Thr	Phe	Asp	Lys	Lys	Gly	Asp	Leu	Val		
			180					185					190				
Ala	Trp	Asn	Lys	Glu	Asn	Asp	Arg	Arg	Thr	Leu	Trp	Thr	Thr	Pro	Asp		
		195					200					205					
Pro	Ser	Pro	Asn	Cys	Lys	Val	Ser	Glu	Glu	Lys	Asp	Ser	Lys	Leu	Thr		
	210					215					220						
Leu	Val	Leu	Thr	Lys	Cys	Gly	Ser	Gln	Ile	Leu	Ala	Ser	Val	Ser	Leu		
225					230					235					240		
Leu	Val	Val	Lys	Gly	Lys	Phe	Ala	Asn	Ile	Asn	Asn	Lys	Thr	Asn	Pro		
				245					250					255			
Gly	Glu	Asp	Tyr	Lys	Xaa	Phe	Ser	Val	Lys	Leu	Leu	Phe	Asp	Ala	Asn		
			260					265					270				
Gly	Lys	Leu	Leu	Thr	Gly	Ser	Ser	Leu	Asp	Gly	Asn	Tyr	Trp	Asn	Tyr		
		275					280					285					
Lys	Asn	Lys	Asp	Ser	Val	Ile	Gly	Ser	Pro	Tyr	Glu	Asn	Ala	Val	Pro		
	290					295					300						
Phe	Met	Pro	Asn	Ser	Thr	Ala	Tyr	Pro	Lys	Ile	Ile	Asn	Asn	Gly	Thr		
305					310					315					320		
Ala	Asn	Pro	Glu	Asp	Lys	Lys	Ser	Ala	Ala	Lys	Lys	Thr	Ile	Val	Thr		
				325					330					335			
Asn	Val	Tyr	Leu	Gly	Gly	Asp	Ala	Ala	Lys	Pro	Val	Ala	Thr	Thr	Ile		
			340					345					350				
Ser	Phe	Asn	Lys	Glu	Thr	Glu	Ser	Asn	Cys	Val	Tyr	Ser	Ile	Thr	Phe		
		355					360					365					
Asp	Phe	Ala	Trp	Asn	Lys	Thr	Tyr	Lys	Asn	Val	Pro	Phe	Asp	Ser	Ser		
	370					375					380						

Ser Leu Thr Phe Ser Tyr Ile Ala Gln Glu  
385 390

<210> 58  
<211> 353  
<212> PRT  
<213> adenoviridae

<220>  
<221> VARIANT  
<222> (1)..(353)  
<223> Serotype 51 fiber protein

<400> 58

Ser Cys Ser Cys Pro Ser Ala Pro Thr Ile Phe Met Leu Leu Gln Met  
1 5 10 15

Lys Arg Ala Arg Pro Ser Glu Asp Thr Phe Asn Pro Val Tyr Pro Tyr  
20 25 30

Glu Asp Glu Ser Thr Ser Gln His Pro Phe Ile Asn Pro Gly Phe Ile  
35 40 45

Ser Pro Asn Gly Phe Thr Gln Ser Pro Asp Gly Val Leu Thr Leu Asn  
50 55 60

Cys Leu Thr Pro Leu Thr Thr Thr Gly Gly Pro Leu Gln Leu Lys Val  
65 70 75 80

Gly Gly Gly Leu Ile Val Asp Asp Thr Asp Gly Thr Leu Gln Glu Asn  
85 90 95

Ile Arg Val Thr Ala Pro Ile Thr Lys Asn Asn His Ser Val Glu Leu  
100 105 110

Ser Ile Gly Asn Gly Leu Glu Thr Gln Asn Asn Lys Leu Cys Ala Lys  
115 120 125

Leu Gly Asn Gly Leu Lys Phe Asn Asn Gly Asp Ile Cys Ile Lys Asp  
130 135 140

Ser Ile Asn Thr Leu Trp Thr Gly Ile Lys Pro Pro Pro Asn Cys Gln  
145 150 155 160

Ile Val Glu Asn Thr Asp Thr Asn Asp Gly Lys Leu Thr Leu Val Leu  
165 170 175

Val Lys Asn Gly Gly Leu Val Asn Gly Tyr Val Ser Leu Val Gly Val  
180 185 190

Ser Asp Thr Val Asn Gln Met Phe Thr Gln Lys Ser Ala Thr Ile Gln  
195 200 205

Leu Arg Leu Tyr Phe Asp Ser Ser Gly Asn Leu Leu Thr Asp Glu Ser  
210 215 220

Asn Leu Lys Ile Pro Leu Lys Asn Lys Ser Ser Thr Ala Thr Ser Glu  
225 230 235 240

Ala Ala Thr Ser Ser Lys Ala Phe Met Pro Ser Thr Thr Ala Tyr Pro  
245 250 255

Phe Asn Thr Thr Thr Arg Asp Ser Glu Asn Tyr Ile His Gly Ile Cys  
260 265 270

Tyr Tyr Met Thr Ser Tyr Asp Arg Ser Leu Val Pro Leu Asn Ile Ser  
275 280 285

Ile Met Leu Asn Ser Arg Thr Ile Ser Ser Asn Val Ala Tyr Ala Ile  
290 295 300

Gln Phe Glu Trp Asn Leu Asn Ala Lys Glu Ser Pro Glu Ser Asn Ile  
305 310 315 320

Ala Thr Leu Thr Thr Ser Pro Phe Phe Phe Ser Tyr Ile Ile Glu Asp  
325 330 335

Thr Thr Lys Cys Ile Ser Leu Cys Tyr Val Ser Thr Cys Leu Phe Phe  
340 345 350

Asn\_